ORDER FOR SUPPLIES OR SERVICES

PAGE 1 OF 74 PAGES

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER	12/18/2015
2. CONTRACT NO. *(If any)*	HHSN316201200013W
3. ORDER NO.	EP-G16H-01236
4. REQUISITION/REFERENCE NO.	See Schedule

5. ISSUING OFFICE *(Address correspondence to)*
HPOD
US Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Avenue, N. W.
Mail Code: 3803R
Washington DC 20460

7. TO: [redacted]

a. NAME OF CONTRACTOR
COMPUTER SCIENCES CORPORATION

b. COMPANY NAME

c. STREET ADDRESS
14120 NEWBROOK DR

d. CITY: CHANTILLY | e. STATE: VA | f. ZIP CODE: 20151

6. SHIP TO:

a. NAME OF CONSIGNEE
U.S. EPA

b. STREET ADDRESS
109 T.W. Alexander Drive

c. CITY: Research Triangle Park | d. STATE: NC | e. ZIP CODE: 27711

f. SHIP VIA

8. TYPE OF ORDER

☐ a. PURCHASE
REFERENCE YOUR:

Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.

☒ b. DELIVERY

Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.

9. ACCOUNTING AND APPROPRIATION DATA	See Schedule
10. REQUISITIONING OFFICE	NERL RTP

11. BUSINESS CLASSIFICATION *(Check appropriate box(es))*
☐ a. SMALL ☐ b. OTHER THAN SMALL ☐ c. DISADVANTAGED ☐ d. WOMEN-OWNED ☐ e. HUBZone
☐ f. SERVICE-DISABLED VETERAN-OWNED ☐ g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM ☐ h. EDWOSB

12. F.O.B. POINT
Destination

13. PLACE OF		14. GOVERNMENT B/L NO.	15. DELIVER TO F.O.B. POINT ON OR BEFORE *(Date)*	16. DISCOUNT TERMS
a. INSPECTION	b. ACCEPTANCE			

17. SCHEDULE *(See reverse for Rejections)*

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	DUNS Number: 780529355 Email: benjey.william@epa.gov Phone: 919-541-0821 TOCOR: William Benjey Max Expire Date: 08/31/2022 Continued ...					

18. SHIPPING POINT	19. GROSS SHIPPING WEIGHT	20. INVOICE NO.	17(h) TOTAL *(Cont. pages)*

21. MAIL INVOICE TO:

a. NAME	RTP Finance Center	$501,770.00	
b. STREET ADDRESS (or P.O. Box)	US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts		17(i) GRAND TOTAL
c. CITY: Durham	d. STATE: NC	e. ZIP CODE: 27711	[redacted]

SEE BILLING INSTRUCTIONS ON REVERSE

22. UNITED STATES OF AMERICA BY *(Signature)* [signature]

23. NAME *(Typed)*
Jody Gosnell
TITLE: CONTRACTING/ORDERING OFFICER

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER	CONTRACT NO.	ORDER NO.
12/18/2015	HHSN316201200013W	EP-G16H-01236

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	Admin Office: HPOD US Environmental Protection Agency William Jefferson Clinton Building 1200 Pennsylvania Avenue, N. W. Mail Code: 3803R Washington DC 20460 Period of Performance: 09/01/2015 to 08/31/2022					
0001	This Task Order has been issued in accordance with NIH NITAAC CIO-SP3 GWAC,CSC, NIH NITAAC CIO-SP# contract# HHSN3162012000113, EPA request for proposal (RFP) ID# C-31043-0, posted to NIH NITAAC CIO-SP3 eGos system, and CSC Technical and Cost proposal dated May 18,2015. Incremental Funding in the amount of $501,770.00 has been added to the Base period of the Task Order via Requisition No: PR-ORD-16-00432, PR-OW-16-00083 Accounting Info: 15-16-B-23D30H4-202BD4X15-2505-1623D3E002-001 BFY: 15 EFY: 16 Fund: B Budget Org: 23D30H4 Program (PRC): 202BD4X15 Budget (BOC): 2505 DCN - Line ID: 1623D3E002-001 Funding Flag: Partial Funded: [redacted] Accounting Info: 15-16-C-26UC000-102FK6XR2-2532-26A6A-1626UCE009-001 BFY: 15 EFY: 16 Fund: C Budget Org: 26UC000 Program (PRC): 102FK6XR2 Budget (BOC): 2532 Cost: 26A6A DCN - Line ID: 1626UCE009-001 Funding Flag: Partial Funded: [redacted] Accounting Info: 15-16-C-26UC000-101FK6XR1-2532-26A6A-1626UCE009-002 BFY: 15 EFY: 16 Fund: C Budget Org: 26UC000 Program (PRC): Continued ...				501,770.00	

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER	CONTRACT NO.	ORDER NO.
12/18/2015	HHSN316201200013W	EP-G16H-01236

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	101FK6XR1 Budget (BOC): 2532 Cost: 26A6A DCN - Line ID: 1626UCE009-002 Funding Flag: Partial Funded: [redacted] Accounting Info: 15-16-C-26UC000-301FK8XPW-2532-26A6A-1626UCE009-003 BFY: 15 EFY: 16 Fund: C Budget Org: 26UC000 Program (PRC): 301FK8XPW Budget (BOC): 2532 Cost: 26A6A DCN - Line ID: 1626UCE009-003 Funding Flag: Partial Funde[redacted] Accounting Info: 15-16-C-26UC000-301FK8XPV-2532-26A6A-1626UCE009-004 BFY: 15 EFY: 16 Fund: C Budget Org: 26UC000 Program (PRC): 301FK8XPV Budget (BOC): 2532 Cost: 26A6A DCN - Line ID: 1626UCE009-004 Funding Flag: Partial Funded: [redacted] Accounting Info: 15-16-C-26UC000-202FK7-2532-26A6A-1626UCE009-005 BFY: 15 EFY: 16 Fund: C Budget Org: 26UC000 Program (PRC): 202FK7 Budget (BOC): 2532 Cost: 26A6A DCN - Line ID: 1626UCE009-005 Funding Flag: Partial Funded: [redacted] Accounting Info: 15-16-C-26UC000-201FK7-2532-26A6A-1626UCE009-006 BFY: 15 EFY: 16 Fund: C Budget Org: 26UC000 Program (PRC): 201FK7 Budget (BOC): 2532 Cost: 26A6A DCN - Line ID: 1626UCE009-006 Funding Flag: Partial Funded: [redacted] Accounting Info: 16-17-C-26UC000-101FK6XR1-2532-26A6A-1626UCE009-007 BFY: 16 EFY: 17 Fund: C Budget Org: 26UC000 Program (PRC): 101FK6XR1 Budget (BOC): 2532 Cost: 26A6A DCN - Line ID: 1626UCE009-007 Funding Flag: Partial Funded: [redacted] Accounting Info: 16-17-C-26UC000-202FK7-2532-26A6A-1626 Continued ...					

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H)) $0.00

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER	CONTRACT NO.	ORDER NO.
12/18/2015	HHSN316201200013W	EP-G16H-01236

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	UCE009-008 BFY: 16 EFY: 17 Fund: C Budget Org: 26UC000 Program (PRC): 202FK7 Budget (BOC): 2532 Cost: 26A6A DCN - Line ID: 1626UCE009-008 Funding Flag: Partial Funded: [redacted]					
0002	Option Period I POP: 04/01/2016 - 03/31/17 Ceiling NTE: [redacted] Labor Hours NTE: [redacted] Amount: [redacted] (Option Line Item)					
0003	Option Period II POP: 04/01/2017 - 03/31/2018 Ceiling NTE: [redacted] Labor Hours NTE: [redacted] Amount: [redacted] (Option Line Item)					
0004	Option Year III POP: 04/01/2018 - 03/31/2019 Ceiling NTE: [redacted] Labor Hours: [redacted] Amount: [redacted] (Option Line Item)					
0005	Option Year IV POP: 04/01/2019 - 03/31/2020 Ceiling NTE: [redacted] Labor Hours NTE: [redacted] Amount: [redacted] Option Line Item)					
0006	Option Year V POP: 04/01/2020 - 03/31/2021 Ceiling NTE: [redacted] Labor Hours N[redacted] Amount: [redacted] Option Line Item)					
0007	Option Year VI POP: 04/01/2021 - 08/31/2022 Ceiling NTE: [redacted] Continued ...					

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H)) $0.00

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER	CONTRACT NO.	ORDER NO.
12/18/2015	HHSN316201200013W	EP-G16H-01236

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	Labor Hours NTE: [redacted] Amount: [redacted] (Option Line Item) The obligated amount of award: $501,770.00. The total for this award is shown in box 17(i).					

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H)) $0.00

SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS

This section incorporates all of the clauses and provisions of the Offeror's underlying NITAAC CIO-SP3 contract.

B.1 SPECIAL NOTICE TO NITAAC CIO-SP3 CONTRACT HOLDERS RECEIVING THE REQUEST FOR PROPOSAL (CUSTOM)

1. This Request for Proposal (RFP), **RFP ID#C-31043-O**, is issued in accordance with Federal Acquisition Regulation (FAR) Part 16.505. The Technical Review Panel (TRP) will evaluate the offeror's technical and cost/price proposal and the Contracting Officer (CO) intends to award a task order that is placed under the successful offeror's National Institutes of Health's (NIH) Information Technology Acquisition and Assessment Center's (NITAAC) CIO-SP3 Large Business GWAC.

2. The Government intends to evaluate proposals and award a task order without discussions with offerors. However, the Government reserves the right to conduct discussions if later determined by the Contracting Officer to be necessary or in the best interest of the Government. The Government reserves the right not to make award if the quality of responses received is less than that desired by the Government, available funding is insufficient or becomes unavailable, or for any other reason that the Government determines is not in its best interest. The offeror is solely responsible for all proposal costs associated with this request.

3. The EPA CO has added specific EPA clauses, terms and conditions required by EPA's Acquisition Regulation (EPAAR) and the Office of Acquisition Management (OAM) policy. If the EPA CO could not determine whether or not a clause was included in NITAAC's CIO-SP3 contract, the CO has included those clauses either by reference or in full text.

NOTE: The full text of an EPAAR clause may be accessed electronically at this address: http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title48/48cfrv6_02.tpl

4. All of the clauses in the offeror's existing NITAAC CIO-SP3 contract that are in effect at the time the EPA CO issues the task order, as well as any and all modifications that NITAAC issues to the CIO-SP3 contract holders during the EPA's effective task order period of performance, are incorporated by reference and shall be in full force and effect.

5. The EPA task order shall only be in effect for the period of time that the successful

offeror's NITAAC CIO-SP3 contract is in effect.

B.2 PRICE/COST SCHEDULE

The offeror's Price/Cost Summary must include a breakdown of total hours and pricing for each period of performance (POP) as described in the following charts. Note: Refer to RFP section I.5 – Type of Contract.

Contract Line Item (CLIN)	Description	POP	Hours	Price/Cost
Base Period				
001	Total Labor Hours	[redacted]		
002	Other Direct Costs			
003	Contract Access Fee (CAF)			
TOTALS	**For Base Period**			

Contract Line Item (CLIN)	Description	POP	Hours	Price/Cost
Option Period 1				
101	Total Labor Hours	[redacted]		
102	Other Direct Costs			
103	Contract Access Fee (CAF)			
TOTALS	**For Option Period 1**			

Contract Line Item (CLIN)	Description	POP	Hours	Price/Cost
Option Period 2				
201	Total Labor Hours	[redacted]		
202	Other Direct Costs			
203	Contract Access Fee (CAF)			
TOTALS	**For Option Period 2**			

Contract Line Item (CLIN)	Description	POP	Hours	Price/Cost
Option Period 3				
301	Total Labor Hours	[redacted]		
302	Other Direct Costs			
303	Contract Access Fee (CAF)			
TOTALS	**For Option Period 3**			

Contract Line Item (CLIN)	Description	POP	Hours	Price/Cost
Option Period 4				
401	Total Labor Hours	[redacted]		
402	Other Direct Costs			
403	Contract Access Fee (CAF)			
TOTALS	**For Option Period 4**			

Contract Line Item (CLIN)	Description	POP	Hours	Price/Cost
Option Period 5				
501	Total Labor Hours	[redacted]		
502	Other Direct Costs			
503	Contract Access Fee (CAF)			
TOTALS	**For Option Period 5**			

Contract Line Item (CLIN)	Description	POP	Hours	Price/Cost
Option Period 6				
601	Total Labor Hours	[redacted]		
602	Other Direct Costs			
603	Contract Access Fee (CAF)			
TOTALS	**For Option Period 6**			

Total Estimated Cost for Base and Option Periods [redacted]

B.3 OTHER DIRECT COSTS (CUSTOM)

(a) Other Direct Costs (ODC) (for example, travel and/or training) in the amount listed below shall be included as a total maximum dollar value for each period of performance of the task order. Offerors shall include the amounts shown below in the offeror's total estimated cost for each period of performance. The amounts are maximum ceiling dollar amounts that the offeror shall not exceed. These amounts are not guaranteed to the task order Contractor but are maximum dollar ceilings for each year of the period of performance. The Government shall not reimburse the offeror for any dollar amount in excess of that ceiling amount. ODCs are specific to each period of performance and do not carry over into the following periods of performance.

	ODCs
Base Period of Performance	[redacted]
Option 1 Period of Performance	
Option 2 Period of Performance	
Option 3 Period of Performance	
Option 4 Period of Performance	
Option 5 Period of Performance	
Option 6 Period of Performance	

(b) When the COR or CO notifies the Contractor of an EPA requirement, the Contractor shall submit all requests, in writing, for ODC items to the CO for approval before the ODC item is procured, unless otherwise authorized by the CO. All requests for long distance travel and Contractor training shall be in accordance with Approval of Contractor Travel and Approval of Contractor Training in Section H. The Contractor shall not incur any costs for an ODC prior to receiving the CO's written approval of the Contractor's request, except as noted below.

(c) Any costs that the Contractor incurs prior to receiving the CO's written/e-mail approval can be disallowed by the CO.

(d) For cost efficiencies, the COR or CO shall determine with the Contractor whether meetings can be via telephone conference call, video conference call or in person, prior

to any meeting between the Contractor and Government personnel, including the Contractor's subcontractor personnel (if applicable).

(e) The Contractor shall be allowed to apply only its G&A indirect rate to ODCs, and the Contractor shall not apply any other fees or rates unless expressly authorized by the CO in the task order.

(f) Other Direct Costs (ODCs) are items which are allowable and allocable direct costs to the task order for which EPA may reimburse the Contractor. Such items shall be charged in accordance with the Contractor's established and accepted accounting practices except as stated below. The Task Order COR (TOCOR) may provide approval for materials and supplies up to $500.00 (for a single item or a related group of items). For costs beyond $500, the EPA Contracting Officer's approval is required. This consent is only intended to be a determination of technical reasonableness and is not a pre-determination as to the allowability of these costs. Equipment is considered to be "facilities" for the purpose of Part 45 of the Federal Acquisition Regulation and, with certain exceptions, may not be reimbursed as a direct charge to the contract. (g) The Contractor shall include a clause with language that is substantially the same in all of the Contractor's subcontract agreements under this task order.

B.4 CEILING PRICE (CUSTOM)

The ceiling price of this task order is [redacted]. The Contractor shall not make expenditures or incur obligations in the performance of this task order which exceed the ceiling price specified herein, except at the Contractor's own risk.

B.5 NITAAC CIO-SP3 CONTRACT ACCESS FEE (CUSTOM)

(a) The task order will be issued against the National Institutes of Health's (NIH) Information Technology Acquisition and Assessment Center's (NITAAC) Government-wide Acquisition Contract (GWAC) CIO-SP3 contract. NIH grants other Agencies the authority to issue task orders under its NITAAC CIO-SP3 contract.

(b) All GWACs require a Contract Access Fee (CAF) paid to the Agency that awarded the contract. When a CO from another Agency issues a task order against one of the GWACs, the Contractor that receives the task order is responsible for the CAF reimbursement to the GWAC Contracting Office. Therefore, the Contractor has to collect the CAF from the ordering Agency. This requirement is set forth in the Contractor's NTAAC CIO-SP3 conformed contract clauses.

(c) The NIH Contract Access Fee (NCAF) for the NITAAC CIO-SP3 contract is 0.75% for small businesses and 1% for large businesses with a cap of $150,000 for any task order Base or Optional Period (not to exceed 12 months) with funding in excess of $20 Million.

(d) The CAF is a separate line item and does not increase the value of the award to the Contractor since the Contractor is responsible for reimbursing that dollar amount to the NITAAC CIO-SP3 Contracting Officer. It also does not increase the value of the Task Order. The CAF is an additional cost to the Agency using the NITAAC CIO-SP3 GWAC and is not retained by the Contractor.

(e) Each time the EPA Contracting Officer obligates funding (not shifting funds) on this Task Order, the CO will include a line for the NITAAC CIO-SP3 CAF.

(f) The initial task order award document and all subsequent task order modifications will include a Microsoft Excel spreadsheet with the following information:

BASE PERIOD	Fee Percent =	*1%*	
TASK ORDER VALUE	Before	This Action	After
Time and Material			
Other Direct Costs			
CAF			
Total Amount			
TASK ORDER INCREMENTAL FUNDING			
Time and Material			
Other Direct Costs			
CAF			
Total Amount	$0.00	$501,770.00	$501,770.00

(g) The Agency does not incur any GWAC CAF liability to the NITAAC CIO-SP3 Contract Administration Office unless the Agency obligates funding on the Task Order.

SECTION C – DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

This section incorporates all of the clauses and provisions of the Offeror's underlying NITAAC CIO-SP3 contract.

The full text of an EPAAR clause may be accessed electronically at this address:
http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title48/48cfrv6_02.tpl

C.1 TASK ORDER PERFORMANCE WORK STATEMENT (CUSTOM)

The Contractor shall furnish the necessary personnel, material, equipment, services and facilities (except as otherwise specified), to perform the scope of work/specifications included in RFP Attachment 1 – Performance Work Statement (PWS). The Contractor shall perform work under this task order only as directed in the tasks detailed in the PWS.

C.2 MANAGEMENT OVERSIGHT CONTROLS (CUSTOM)

(a) The Contractor shall submit all analyses, options, recommendations, reports, and training materials required under this task order in draft for critical review by the Contracting Officer (CO) or Contracting Officer's Representative (COR). The Government will make all final regulatory, policy, and interpretive decisions resulting from Contractor-provided technical support under this task order and make the final decision on all Contractor-provided recommendations. The Contractor shall not publish or otherwise release, distribute, or disclose any work product generated under this without obtaining EPA's express advance written approval. When submitting materials or reports that contain recommendations, the Contractor shall explain or rank policy or action alternatives; describe procedures used to arrive at recommendations; summarize the substance of deliberations; report any dissenting views; list sources relied upon; and detail the methods and considerations upon which the recommendations are based. The Contractor shall not provide any legal services to EPA under this contract, absent express written advance approval from EPA's Office of General Counsel.

(b) All Contractor, subcontractor, and consultant personnel shall wear prominently displayed identification badges at all times when performing tasks under this task order and when interacting with EPA officials, federal agencies, state, tribal and local Governments, business, industry, and the general public. The badge shall contain the individual's name and the company's name and logo. The office space occupied by Contractor staff in any location that is also occupied by EPA employees shall be identified with appropriate signs that include the Contractor's name. When participating in any event and/or discussion (e.g., answering the telephone,

participating as a panel member or speaker), Contractor staff shall verbally identify themselves as Contractor personnel so that there is no possible appearance of being EPA officials.

C.3 NOTICE REGARDING PROHIBITED CONTRACTOR ACTIVITIES ON ENVIRONMENTAL PROTECTION AGENCY (EPA) CONTRACTS (EP 52.000-000) (NOV 1984)

The Contractor shall not perform any of the following activities on behalf of EPA in connection with this task order:

1. The actual preparation of Congressional testimony.
2. The interviewing or hiring of individuals for employment at EPA.
3. Developing and/or writing of Position Descriptions and Performance Standards.
4. The actual determination of Agency policy.
5. Participating as a voting member on a Performance Evaluation Board; participating in and/or attending Award Fee meetings.
6. Preparing Award Fee Letters, even under typing services contracts.
7. The actual preparation of Award Fee Plans.
8. The preparation of documents on EPA Letterhead other than routine administrative correspondence.
9. Reviewing vouchers and invoices for the purposes of determining whether costs, hours, and work performed are reasonable.
10. The preparation of Statements of Work, Work Assignments, Technical Direction Documents, Delivery Orders, or any other work issuance document under a contract that the Contractor is performing or may perform. Such a work issuance document, prepared by an EPA prime Contractor under an EPA prime contract for its subcontractor, is exempt from this prohibition.
11. The actual preparation of responses to audit reports from the Inspector General, General Accounting Office, or other auditing entities.
12. Preparing responses to Congressional correspondence.
13. The actual preparation of responses to Freedom of Information Act requests, other than routine, non-judgmental correspondence.
14. Any contract which authorizes a Contractor to represent itself as EPA to outside parties.
15. Conducting administrative hearings.
16. Reviewing findings concerning the eligibility of EPA employees for security clearances.
17. The actual preparation of an office's official budget request.

C.4 INCORPORATION OF THE CONTRACTOR'S SUBMISSION (CUSTOM)

The Contractor's submission in response to RFP ID# C-31043-O, dated **May 18, 2015** is incorporated by reference and is made a part of this task order. In the event of any inconsistencies between: 1) the Federal Acquisition Regulation (FAR); 2) the Environmental Protection Agency (EPA) Acquisition Regulation (EPAAR); 3) Environmental Protection Agency policies and procedures; 4) other task order clauses; and 5) the Contractor's submission, the NITAAC CIO-SP3 task order's terms and conditions take precedence.

C.5 EPAAR 1552.211-79 COMPLIANCE WITH EPA POLICIES FOR INFORMATION RESOURCES MANAGEMENT (JULY 2012)

Clause incorporated by reference.

C.6 ADDITIONAL INFORMATION REGARDING EPA POLICIES FOR INFORMATION RESOURCES MANAGEMENT (CUSTOM)

(a) The Contracting Officer (CO) reserves the right to update the task order with any changes to EPA policies and procedures for Information Resource Management whenever the EPA, the Office of Management and Budget (OMB) and/or the Office of Federal Procurement Policy (OFPP) policies, procedures and regulations change.

(b) The CO will provide the Contractor with an opportunity to respond to changes to the policy procedures; however, the Contractor shall comply immediately to these changes unless the CO directs otherwise or provides the Contractor with a specific written exemption.

(c) The CO will provide hard copies of any IRM policies to the Contractor upon request or when a change to IRM policy is unavailable but applicable to Contractor performance under the Contractor's EPA task order.

C.7 COMPLIANCE WITH FEDERAL, NIH AND EPA REGULATIONS, POLICY AND STANDARDS (CUSTOM)

The Contractor shall abide by all Federal, NIH and EPA regulations, policies, and procedures in effect during the task order period of performance. This includes all changes in laws, regulations, policies, and procedures as they evolve during the EPA's task order's period of performance. The offeror shall not be required to conform to these policies and regulations until after task order award. Internal EPA and OCFO specific policies and regulations, as well as security related documents, will be provided to the Contractor at the kick-off meeting prior to the

start of task order performance.

SECTION D – PACKAGING AND MARKING

This section incorporates all of the clauses and provisions of the Offeror's underlying NITAAC CIO-SP3 contract.

SECTION E – INSPECTION AND ACCEPTANCE

This section incorporates all of the clauses and provisions of the Offeror's underlying NITAAC CIO-SP3 contract.

E.1 FAR 52.246-6 INSPECTION – TIME-AND-MATERIAL AND LABOR-HOUR (MAY 2001)

Clause incorporated by reference.

SECTION F – DELIVERIES OR PERFORMANCE

This section incorporates all of the clauses and provisions of the Offeror's underlying NITAAC CIO-SP3 contract.

The full text of an EPAAR clause may be accessed electronically at this address:
http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title48/48cfrv6_02.tpl

F.1 DELIVERY OF REPORTS (CUSTOM)

The Contractor shall prepare all electronic reports/deliverables using no smaller than twelve point character font size and in either Times New Roman or Arial font style, including ALL charts/tables, figures and footnotes, and must be clear and readable.

F.2 EPAAR 1552.211-70 REPORTS OF WORK (OCT 2000)

The Contractor shall prepare and deliver reports, including plans, evaluations, studies, analyses and manuals in accordance with RFP Attachment #1 – Performance Work Statement. Each report shall cite the contract number, identify the U.S. Environmental Protection Agency as the sponsoring agency, and identify the name of the Contractor preparing the report.

F.3 EPAAR 1552.211-72 MONTHLY PROGRESS REPORTS (JUN 1996)

(a) The Contractor shall furnish electronic copies of the combined monthly technical and financial progress report stating the progress made, including the percentage of the project completed, and a description of the work accomplished to support the cost.

(b) Specific discussions shall include difficulties encountered and remedial action taken during the reporting period, and anticipated activity with a schedule of deliverables for the subsequent reporting period.

(c) The Contractor shall provide a list of outstanding actions awaiting Contracting Officer authorization, noted with the corresponding task area and/or ODC item(s).

(d) The report shall specify financial status for the task order as follows:

(1) For the current reporting period, display the amount claimed.

(2) For the cumulative period and the cumulative task order life display: the amount obligated, amount originally invoiced, amount paid, amount suspended, amount disallowed, and remaining approved amount. The remaining approved amount is defined as the total obligated amount, less the total amount originally invoiced, plus total amount disallowed.

(3) For the Direct Labor portion of the monthly reporting period for each

period of performance.

(i) A list of employees, their labor categories, and the numbers of hours worked for the reporting period.

(ii) For the current reporting period, display the total cost broken out by the task order prime Contractor and for each of the prime Contractor's subcontractors.

(iii) For the cumulative task order period of performance: the awarded amount, expended and remaining cost for the prime Contractor, and each of the prime Contractor's subcontractors.

(iv) Display the estimated costs to be expended during the next reporting period.

(v) Display the current dollar ceilings in the task order, net amount invoiced, and remaining amounts for the following categories: Contractor costs, subcontracts by individual subcontractor if applicable, and ODCs.

(vi) Unbilled allowable costs. Display the total costs incurred but unbilled for the current reporting period and cumulative for the task order.

(4) For the optional task portions of the monthly reporting period in each period of performance.

(i) A list of employees, their labor categories, and the numbers of hours worked for the reporting period.

(ii) For the current reporting period, display the total cost broken out by the prime Contractor and each of the prime Contractor's subcontractors.

(iii) For the cumulative task order period of performance and the cumulative task order life display: the awarded amount, expended and remaining cost for the prime Contractor, and each subcontractor.

(iv) Display the estimated costs to be expended during the next reporting period.

(v) Display the current dollar ceilings in the task order, net amount invoiced, and remaining amounts for the following categories: Contractor costs, subcontracts by individual subcontractor if applicable, and ODCs.

(vi) Unbilled allowable costs. Display the total costs incurred but unbilled for the current reporting period and cumulative for the task order.

(e) The report's financial status shall specify:

(1) For the current period, display the amount claimed.

(2) For the cumulative period display: amount shown on accepted submission incorporated into the task order or the revised amount, if applicable, (whichever is later); amount currently claimed; amount paid; amount suspended; amount disallowed; and remaining approved amount. The remaining approved amount is defined as: the task order amount, less total amounts originally invoiced, plus total amount disallowed.

(3) Labor hours.

(i) A list of employees, their labor categories, and the number of hours worked for the reporting period.

(ii) For the current reporting period, display the expended direct labor hours and costs broken out for the prime Contractor and each subcontractor.

(iii) For the current reporting period, cumulative task order period, and the cumulative task order life display: the negotiated, expended and remaining direct labor hours and costs broken out by task order labor hour category for the prime Contractor and each subcontractor.

(iv) Display the estimated direct labor hours and costs to be expended during the next reporting period.

(v) Display the estimates of remaining costs for the T&M portion of the task order and the direct labor hours and costs for any exercised optional tasks to complete the task order.

(4) Unbilled allowable costs. Display the total costs incurred but unbilled for the current reporting period and cumulative for the task order.

(5) A list of deliverables for the task order during the reporting period.

(f) This submission does not change the notification requirements of the "Limitation of Funds" requiring separate written notice to the Contracting Officer.

(g) The reports shall be submitted to the Contracting Officer, Contracting Officer Representative, Alternate Contracting Officer Representative and Administrative Alternate Contracting Officer Representative **by the fifteenth (15) day of the month** after the close of the Contractor's billing cycle and in accordance with the clause "Submission of Invoices" following the first complete reporting period of the task order.

F.4 EPAAR 1552.211-75 WORKING FILES (APR 1984) Clause incorporated by reference.

F.5 TASK ORDER PERIOD OF PERFORMANCE (CUSTOM)

NOTE: Refer to RFP section B.2 'Price/Cost Schedule' for Period of Performance breakdown.

(a) The EPA task order has a potential 84-month period of performance: Base and six (6) Option Periods, between **September 1, 2015** and **August 31, 2022** if all option periods of performance are exercised.

(b) The EPA reserves the right to exercise the "Continuity of Services" clause of the Contractor's current underlying NITAAC CIO-SP3 contract at the end of the final period of performance.

(c) The potential 84-month task order period of performance is contingent upon

the Contractor's NITAAC CIO-SP3 contract period of performance. If the Contractor's NITAAC CIO-SP3 contract is terminated by NIH prior to end of this task order's period of performance, this task order is deemed to be terminated in accordance with NIH and this task order's terms and conditions, and existing NIH policies.

(d) The Contractor is responsible for notifying the EPA Contracting Officer (CO) **immediately**, in writing, whenever NIH notifies the Contractor that its current contract is terminated and no further extensions of its NITAAC contract period of performance will be awarded. The Contractor shall also immediately notify the CO if NIH terminates its contract prior to its current expiration date. Failure to notify the EPA CO may be the basis for a "Termination for Default."

(e) Unless otherwise indicated, the term "day" refers to calendar days as defined by the Federal Acquisition Regulation (FAR). However, if the day falls on a Saturday, Sunday, or Federal holiday, then the period shall include the next working day. The term "close of business" refers to 5:00 PM Eastern Time Zone.

SECTION G – CONTRACT ADMINISTRATION DATA

This section incorporates all of the clauses and provisions of the Offeror's underlying NITAAC CIO-SP3 contract.

G.1 SUBMISSION OF INVOICES – RTP FINANCE (CUSTOM)

Invoices shall be prepared containing the following information:

- Date of Invoice
- Invoice number
- Total amount billed
- NITAAC Contract number
- EPA task order number
- Complete company name and billing address as stated on the task order
- Period of performance, where applicable
- Description of commodities/services furnished
- DUNS & Taxpayer Identification Number Bank for EFT payment, bank name, address, account number and routing number, if not in the System for Award Management (SAM)
- Point of contact (POC) name, phone number and email address

Invoice content and formatting:

- Bill only within the period of performance
- Bill for only one option period per invoice
- Bill only for only one delivery order per invoice
- Use the original invoice number followed by an 'R' (resubmitted or revised) when billing for reclaimed, revised or returned billings
- Bill the net amount only when billing for revised or suspended amounts
- Never bill in excess of the contract funded amount
- Do not bill for state and local taxes unless authorized - EPA Tax Exempt #: 520852695

Contract Invoices Submission:

- Complete and sign EPA's Agreement for Email Submission of Contract Invoices and email the completed form to ContractPaymentInfo@epa.gov (phone: (919) 541-1148).
- Wait for authorization. Please do not submit a contract bill via email until you receive an authorization email from the RTP Finance Center.

- After receiving authorization from the RTP Finance Center, submit your invoice in PDF format via email using the following procedures.
    - Put the contract number, invoice number and delivery order number in the SUBJECT line of the email.
        - Example: I_68w09999_234B_00005.pdf. If multiple invoices are attached, please put the contract number only. If you are attaching multiple invoices, please limit the number of attachments/invoices to 10 per email. Please submit separate emails per contract.
    - Do not submit correspondence in the body of the email, and do not include any attachments which are not invoices.
        - It is suggested that the following statement be included in email body: NOTICE: this email data is for the designated recipient only and may contain privileged or confidential information. If you have received it in error, please notify the sender immediately and delete the original. Any unauthorized use of this email is prohibited.
    - Invoices must be in PDF format and attached to the email. A separate attachment for each invoice is required. If the invoice is a scanned document, the size should be standard 8.5" x 11". The first page of the PDF document must contain the first page of the invoice.
    - Each invoice must be signed by a representative of the contractor that is fully and completely authorized to sign on behalf of the contractor. The representative must also print his/her name, direct dial phone number, and email address on the invoice.
    - Invoices in PDF format must be named as follows: contractnumber_invoicenumber_ordernumber.pdf. Invoices may be rejected if the file name is incorrect.
        - Contract number: Field is 8 digits (for non-EPA contracts we use the first two digits and the last six digits)
        - Invoice number: Field is 11 digits. Please do not exceed 11 digits per invoice number.
          Any invoice that exceeds the 11 digit limit will be entered using the first 11 digits starting from the right. Numbers should not begin with a zero or with a special character. Invoice numbers should not include an underscore or a '/'.
        - Order number: Field is 5 digits (if there is no order number, please enter '00000' or simply end with the .pdf)
        - Example:

I_EPXX9999_STB-300_00001.pfd
I_68XX0000_7.pdf (no order number required)
I_261D00XX_54678994999_00000.pdf (using zeros as placeholders; no order number required)
I_GSF0440G_B345_01100.pfd
I_EPW01111_1.pdf

- Email your invoice to DDC-KInvoices@epa.gov after you receive the authorization email and as instructed.
- You will receive an auto reply message once the RTP Finance Center receives your email. If for some reason the RTP Finance Center cannot accept your electronic invoice, you will be notified as soon as possible. You are required to contact the RTP Finance Center at 919-541-1148 if your email submission is rejected.
- Receipt date for invoices will be the date the RTP Finance Center retrieves and successfully opens the invoice attachments. If invoices are sent on a weekend or federal holiday, or after 3 p.m. (EST or EDT) on a regular work day, the receipt will be dated for the next business day.
- **Attachment file name protocol is very important (invoice may be rejected if PDF naming protocol is incorrect).** Please contact EPA's Financial Office Customer Service for invoice instructions at: (919) 541-1148, or via email at: ContractPaymentInfo@epa.gov.
- Receipt date for invoices will be the date RTP-Finance retrieves and successfully opens the invoice attachments. If invoices are sent on a weekend or federal holiday, or after 3 p.m. (EST or EDT) on a regular work day, the receipt will be dated for the next business day.
- Submitted invoices which do not conform to these procedures may be determined to be an inappropriate submission and are subject to rejection.
- The Contractor shall carbon copy (cc:) both the COR/ACOR and CO on the email when the Contractor submits its electronic invoice to EPA's Research Triangle Park Finance Center.

If you are unable to submit your task order invoice via email, please use the mailing addresses below:

U.S. Postal Service	U.S. Environmental Protection Agency RTP Finance Center (AA216-01) Durham, NC 27711
UPS, Federal Express, or Overnight Mail	U.S. Environmental Protection Agency RTP Finance Center 4930 Old Page Road (AA216-01) Durham, NC 27703

For task order invoicing or other issues, please contact EPA's Financial Office Customer Service at: (919) 541-1148, or via email at: ContractPaymentInfo@epa.gov.

Payment information and notification may be accessed by registering with the Department of Treasury's Internet Payment Platform (IPP) system at: https://www.ipp.gov/

G.2 CONTRACTING OFFICER'S REPRESENTATIVES (CUSTOM)

The Contracting Officer's Representative (COR), the Alternate COR (ACOR), Administrative Alternate COR (AACOR), the Contract Specialist (CS), and the Contracting Officer (CO) for this task order are as follows:

CONTRACTING OFFICER'S REPRESENTATIVE (COR):
William Benjey (919) 541-0821
Benjey.william@epa.gov

ALTERNATE COR (ACOR):
Tom Pierce (919) 541-1375
Pierce.tom@epa.gov

ADMINISTRATIVE ALTERNATE COR (AACOR):
Kelley Marshall (919) 541-2125
Marshall.Kelley@epa.gov

CONTRACT SPECIALIST (CS) FOR THE TASK ORDER:
N/A

CONTRACTING OFFICER (CO) FOR THE TASK ORDER:
Sharon Mason (202) 564-4742

Mason.sharon@epa.gov

SECTION H – SPECIAL CONTRACT REQUIREMENTS

This section incorporates all of the clauses and provisions of the Offeror's underlying NITAAC CIO-SP3 contract.

The full text of an EPAAR clause may be accessed electronically at this address: http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title48/48cfrv6_02.tpl

Additional reference: Minimum Standards for Contractors' Conflict of Interest Plans – refer to RFP Attachment 5.

H.1 EPAAR 1552.203-71 DISPLAY OF EPA OFFICE OF INSPECTOR GENERAL HOTLINE POSTER (AUG 2000) Incorporated by reference.

H.2 EPAAR 1552.208-70 PRINTING (SEPT 2012) Incorporated by reference.

H.3 EPAAR 1552.209-70 ORGANIZATIONAL CONFLICT OF INTEREST NOTIFICATION (APR 1984) Incorporated by reference.

H.4 EPAAR 1552.209-71 ORGANIZATIONAL CONFLICT OF INTEREST (MAY 1994) ALTERNATE 1 Incorporated by reference.

H.5 EPAAR 1552.209-72 ORGANIZATIONAL CONFLICT OF INTEREST CERTIFICATION (APR 1984)

The Contractor [X] is [ ] is not aware of any information bearing on the existence of any potential organizational conflict of interest. If the offeror is aware of information bearing on whether a potential conflict may exist, the offeror shall provide a disclosure statement describing this information.

H.6 EPAAR 1552.209-73 NOTIFICATION OF CONFLICTS OF INTEREST REGARDING PERSONNEL (MAY1994) Incorporated by reference.

H.7 EPAAR 1552.209-75 ANNUAL CERTIFICATION (MAY 1996) Incorporated by reference.

H.8 EPAAR 1552.227-76 PROJECT EMPLOYEE CONFIDENTIALITY

AGREEMENT (MAY 1994) Incorporated by reference.

H.9 EPAAR 1552.235-70 SCREENING BUSINESS INFORMATION FOR CLAIMS OF CONFIDENTIALITY (APR 1994) Incorporated by reference.

H.10 EPAAR 1552.235-71 TREATMENT OF CONFIDENTIAL BUSINESS INFORMATION (APR 1984) Incorporated by reference.

H.11 EPAAR 1552.235-79 RELEASE OF CONTRACTOR CONFIDENTIAL BUSINESS INFORMATION (APR 1996) Incorporated by reference.

H.12 EPAAR 1552.235-80 ACCESS TO CONFIDENTIAL BUSINESS INFORMATION (OCT 2000)

If the Contractor is required to have access to confidential business information (CBI) during the performance of this task order, the Contractor shall not have access to any CBI submitted to EPA under any authority until the Contractor obtains from the task order Contracting Officer's Representative a certification that the EPA has followed all necessary procedures under 40 CFR part 2, subpart B (and any other applicable procedures), including providing, where necessary, prior notice to the submitters of disclosure to the Contractor.

H.13 EPAAR 1552.237-71 TECHNICAL DIRECTION (AUG 2009)

(a) Definitions.

"Contracting Officer Representative (COR)," means an individual appointed by the Contracting Officer in accordance with Agency procedures to perform specific technical and administrative functions.

"Task order," as used in this clause, means work assignment, delivery order, or any other document issued by the Contracting Officer to order work under a service contract.

(b) The Contracting Officer Representative(s) may provide technical direction on task order or work request performance. Technical direction includes:

(1) Instruction to the Contractor that approves approaches, solutions, designs, or refinements; fills in details; completes the general descriptions of work shifts emphasis among work areas or tasks; and

(2) Evaluation and acceptance of reports or other deliverables.

(c) Technical direction must be within the scope of work of the task order and any task order there under. The Contracting Officer Representative(s) does not have the authority to issue technical direction which:

(1) Requires additional work outside the scope of the task order;
(2) Constitutes a change as defined in the "Changes" clause;
(3) Causes an increase or decrease in the estimated cost of the task order;
(4) Alters the period of performance of the task order; or
(5) Changes any of the other terms or conditions of the task order.

(d) Technical direction will be issued in writing or confirmed in writing within five (5) calendar days after oral issuance. The Contracting Officer will be copied on any technical direction issued by the Contracting Officer Representative.

(e) If, in the Contractor's opinion, any instruction or direction by the Contracting Officer Representative(s) falls within any of the categories defined in paragraph (c) of the clause, the Contractor shall not proceed but shall notify the Contracting Officer in writing within 3 days after receiving it and shall request that the Contracting Officer take appropriate action as described in this paragraph. Upon receiving this notification, the Contracting Officer shall:

(1) Advise the Contractor in writing as soon as practicable, but no later than 30 days after receipt of the Contractor's notification, that the technical direction is within the scope of the task order effort and does not constitute a change under the "Changes" clause of the contract;

(2) Advise the Contractor within a reasonable time that the Government will issue a written modification to the contract; or

(3) Advise the Contractor that the technical direction is outside the scope of the task order and is thereby rescinded.

(f) A failure of the Contractor and Contracting Officer to agree as to whether the technical direction is within the scope of the task order, or a failure to agree upon the task order action to be taken with respect thereto, shall be subject to the provisions of the clause entitled "Disputes" in this task order.

(g) Any action(s) taken by the Contractor, in response to any direction given by any person acting on behalf of the Government or any Government official other than the Contracting Officer or the Contracting Officer Representative, shall be at the Contractor's risk.

NOTE: A Contracting Officer's Representative (COR) is the primary representative of the Contracting Officer (CO) authorized to provide technical direction. The CO may designate an Alternate COR (ACOR) for the task order. CORs must maintain copies of all technical direction and provide a copy to the CO upon the CO's request.

H.14 EPAAR 1552.237-72 KEY PERSONNEL (APR 1984)

(a) The offeror shall assign to this task order the following three (3) Key

Personnel:

Title of Position	Name
[redacted]	

(b) During the first 90 calendar days of performance, the Contractor shall make no substitutions of key personnel unless the substitution is necessitated by illness, death, or termination of employment. The Contractor shall notify the Contracting Officer (CO) within **15** calendar days after the occurrence of any of these events and provide the information required by paragraph (c) of this clause. After the initial 90 day period, the Contractor shall submit the information required by paragraph (c) to the Contracting Officer at least **30** calendar days prior to making any permanent substitutions.
(c) The Contractor shall provide a detailed explanation of the circumstances necessitating the proposed substitutions, complete resumes for the proposed substitutes, and any additional information requested by the CO. Proposed substitutes shall have equivalent qualifications to those of the persons being replaced. The CO will notify the Contractor within **15** calendar days after receipt of all required information of the decision on substitutions. This clause will be modified to reflect any approved changes of key personnel.

H.15 EPAAR 1552.237-75 PAPERWORK REDUCTION ACT (APR 1984)
Incorporated by reference.

H.16 EPAAR 1552.237-76 GOVERNMENT - CONTRACTOR RELATIONS (JUNE 1999)
(a) The Government and the Contractor understand and agree that the services to be delivered under this task order by the Contractor to the Government are non-personal services and the parties recognize and agree that no employer-employee relationship exists or will exist under the task order between the Government and the Contractor's personnel. It is, therefore, in the best interest of the Government to afford both parties a full understanding of their respective obligations.
(b) Contractor personnel under this task order shall not:
(1) Be placed in a position where they are under the supervision, direction, or evaluation of a Government employee.

(2) Be placed in a position of command, supervision, administration or control over Government personnel, or over personnel of other Contractors under other EPA contracts or task orders, or become a part of the Government organization.

(3) Be used in administration or supervision of Government procurement activities.

(c) Employee Relationship:

(1) The services to be performed under this task order do not require the Contractor or his/her personnel to exercise personal judgment and discretion on behalf of the Government. Rather the Contractor's personnel will act and exercise personal judgment and discretion on behalf of the Contractor.

(2) Rules, regulations, directives, and requirements that are issued by the U.S. Environmental Protection Agency under its responsibility for good order, administration, and security are applicable to all personnel who enter the Government installation or who travel on Government transportation. This is not to be construed or interpreted to establish any degree of Government control that is inconsistent with a non-personal services contract.

(d) Inapplicability of Employee Benefits: This task order does not create an employer-employee relationship. Accordingly, entitlements and benefits applicable to such relationships do not apply.

(1) Payments by the Government under this task order are not subject to Federal income tax withholdings.

(2) Payments by the Government under this task order are not subject to the Federal Insurance Contributions Act.

(3) The Contractor is not entitled to unemployment compensation benefits under the Social Security Act, as amended, by virtue of performance of this task order.

(4) The Contractor is not entitled to workman's compensation benefits by virtue of this task order.

(5) The entire consideration and benefits to the Contractor for performance of this task order is contained in the provisions for payment under this task order.

(e) Notice. It is the Contractor's, as well as, the Government's responsibility to monitor task order activities and notify the Contracting Officer if the Contractor believes that the intent of this clause has been or may be violated.

(1) The Contractor shall notify the CO in writing promptly, within **10** calendar days from the date of any incident that the Contractor considers to constitute a violation of this clause. The notice shall include the date, nature and circumstance of the conduct, the name, function and activity of each Government employee or Contractor official or employee involved or knowledgeable about such conduct, identify any documents or substance of any oral communication involved in the

conduct, and the estimate in time by which the Government must respond to this notice to minimize cost, delay or disruption of performance.

(2) The CO will promptly, within **10** calendar days after receipt of notice, respond to the notice in writing. In responding, the CO will either:

(i) Confirm that the conduct is in violation and when necessary direct the mode of further performance,

(ii) Countermand any communication regarded as a violation,

(iii) Deny that the conduct constitutes a violation and when necessary direct the mode of further performance; or

(iv) In the event the notice is inadequate to make a decision, advise the Contractor what additional information is required, and establish the date by which it shall be furnished by the Contractor and the date thereafter by which the Government will respond.

H.17 EPAAR 1552.245-71 GOVERNMENT-FURNISHED DATA (SEPT 2009) Incorporated by reference.

H.18 LOCAL CLAUSE EPA-H-31-104 APPROVAL OF CONTRACTOR TRAVEL

(a) Any Contractor travel which may be directly charged to the task order shall be authorized in advance by the Contracting Officer (CO) for all non-emergency travel. This approval shall be separate from the process associated with the approval of the Contractor's technical and cost/price proposal (see paragraph (e) below and exception H.18(j)).

(b) Travel requests shall be submitted at least fifteen (15) calendar days in advance unless the CO or TOCOR initiates a requirement for Contractor personnel to travel in less than this time requirement.

(c) Travel shall be authorized under this task order only when the travel is required to provide a direct service (including management oversight) or specific product to the Government. The Contractor shall identify the need for travel in any written request submitted and shall clearly identify in an accompanying narrative the relationship of the travel to the direct service required by the Government. Including the estimates for travel in the Contractor's submission in response to the RFP does not negate the requirement for the Contractor to submit a separate travel request in accordance with paragraph (e) below. Unless/until the CO specifically approves the Contractor's travel request (see paragraph (e) below), the Contractor shall not perform travel. Travel and associated costs for such travel lodging, per diem, and incidental expenses, shall be allowable only in accordance with the limitations of FAR 31.205-43, FAR 31.205-46 and Federal Travel Regulations.

(d) Travel expenses for Federal employees shall not be an allowable cost under this task order. Travel approval shall not be rendered for any personnel (including for example State or local Government officials, academicians, etc.) except for employees of the Contractor, or an authorized subcontractor or consultant, who are performing a bona fide function to accomplish the task order's PWS.
(e) To obtain the approval for travel, the Contractor shall submit a separate written request to the CO and COR for each instance of travel for Contractor/subcontractor personnel that is contemplated or is the result of an emergency response requirement, as a direct charge under the task order. The Contractor's request shall include (at a minimum) the following information:

(1) Individual(s) traveling. Identify position and affiliation as a Contractor/subcontractor employee.

(2) Description of circumstances necessitating the travel. Identify the task order benefit of the travel and identify the correlation of the travel to the requirements of the Performance Work Statement (cite paragraph of Contractor's proposal and section of the PWS).

(3) Identify the estimated cost and include a cost breakdown. Explain why this is the most cost effective means to fulfill the task order requirements.

(f) Any time while on travel, on the telephone, and/or while attending a meeting/conference on behalf of the EPA, Contractor/subcontractor personnel shall clearly identify corporate affiliation at the start of any conversation. If Contractor/subcontractor personnel are attending EPA-sponsored meetings, conferences, symposia, etc., or while on a Government site, all badges worn by Contractor personnel shall clearly identify individuals as Contractor employees. Contractor personnel are strictly prohibited from acting as a representative of the Agency at meetings, conferences, symposia, telephone conferences, etc.
(g) The Contractor may request a CO letter for its travelers to use, either individually or collectively, that requests that the lodging venue offer the same rate as it would extend to Federal personnel or to a Contractor that is traveling on behalf of the Federal Government and being paid for by the Federal funds on a task order. If, however, the Contractor is able to obtain a corporate rate that is lower than the GSA published lodging allowance, the Contractor shall use that rate. The Contractor shall use a rate that provides the best-value to the Government.
(h) The Contractor shall first reimburse a traveler prior to submitting a request for reimbursement and provide the COR and CO with an itemized copy of any traveler's claim for reimbursement. The Contractor shall comply with all Federal laws, regulations and this clause for all requests for travel reimbursement.
(i) No travel shall be reimbursed that does not comply with the terms of this clause, unless the Contractor receives express, written approval from the CO.

(j) Travel—Travel up to of $1,000.00 for a single trip (e.g. one trip for 3 people or 1 trip for 1 person) may be an allowable charge to this task order with prior written consent of the TOCOR. Travel in excess of $1,000.00 for a single trip (e.g. one trip for 3 people or 1 trip for 1 person) is not allowable as a charge to this task order without prior written consent of the Contracting Officer. Except as explicitly set forth below, the Contractor shall be reimbursed for allowable and allocable travel costs actually incurred by and paid to the Contractor's employees, provided such costs do not exceed the amount that would be payable to an employee of the Environmental Protection Agency conducting the same travel while on Government business. In determining the dollar value of allowable contractor employee travel costs, the limitation of the Federal Travel Regulations effective on the date of travel will apply to contractor employees to the same extent they apply to Federal Government employees.

(k) The Contractor may be required to furnish to the Contracting Officer documentary proof of every travel expenditure that exceeds twenty-five dollars ($25), including receipts for common carrier transportation expenditures. Bona fide lodging receipts may be required to be submitted by the Contractor along with the monthly invoices.

(l) The Contractor may elect to reimburse its employees for meals and incidental expenses (as defined in the Federal Travel Regulations) on a per diem basis, and the Contractor will be reimbursed for such payments. In no event shall the reimbursement allowed under this provision exceed the standard per diem for meals and incidental expenses allowable under the Federal Travel Regulations.

(m) To the maximum extent practicable consistent with travel requirements, the Contractor agrees to use the reduced air transportation and hotel/motel rates and services provided through available Government discount air fares and lodging rates for bona fide employees' travel that is otherwise reimbursable as a direct cost pursuant to this contract when use of such rates results in the lowest overall cost. The Contractor shall submit requests, including pertinent information, for specific authorization to use these rates to the Contracting Officer.

(n) The contractor shall generate and submit to the TOCOR, a detailed Trip Report within five working days of completing the travel. The trip report shall contain the purpose of the trip, its length, location visited, issues/information obtained on the trip, action items and recommendations resulting from the trip that impact the services being delivered.

(o) The Contractor shall include a clause with language that is substantially the same in all of the Contractor's subcontract agreements under this task order.

H.19 LOCAL CLAUSE EPA-H-31-105 APPROVAL OF CONTRACTOR TRAINING

(a) The Contractor shall provide and maintain a qualified staff of personnel to meet the requirements of the task order PWS. The Contractor shall provide training to keep its personnel abreast of changes to the science and/or technology associated with the requirements of the task order. In addition, the Contractor shall ensure that its personnel receive appropriate safety, health and environmental training in accordance with Federal, state and local requirements prior to assigning any task that require such training. The Contractor shall provide documentation of such training upon to the CO and COR in the Contractor's Monthly Progress Reports as a separate, clearly identified item.

(b) The Government will not directly reimburse the cost for Contractor employees to meet or maintain minimal task order requirements or to obtain and sustain an appropriate level of professionalism. The Government will only consider reimbursement of any direct charges for training if the Contractor complies with the procedures set forth in paragraph (c) below.

(c) The Government may determine to reimburse the direct cost of training only when the Government determines that to do so is in the best interests of the Government associated with a requirement that represents a unique Government need unrecognized at the time of task order award. When such circumstances occur, the Contractor shall secure the CO's prior written approval by submitting a written request to the CO and COR that includes, at a minimum the following information:

(1) Individual to be trained (identify position and job duties under task order).

(2) Description of circumstances necessitating the training. (Describe the specific change to the performance requirements. Identify the section of the PWS that will benefit from training and describe in detail how the training relates to the PWS and job duties under the task order.)

(3) Estimated cost (Include a cost breakdown. Explain why this is the most cost effective means to fulfill the task order requirements.)

(d) The CO will provide the Contractor with written approval or disapproval of the Contractor's request. Approval of the Contractor's submission in response to the RFP that includes training as an additional cost shall not be construed to mean the training is approved; i.e., the Contractor shall obtain written approval pursuant to the terms of this clause. Training billed as a direct cost shall be disallowed by the CO unless approves it in accordance with this clause.

(e) The Contractor shall include a clause with language that is substantially the same in all of the Contractor's subcontract agreements under this task order.

(f) Contracting Officer approval is not required for mandatory EPA training such as EPA's Annual Security Training, etc. These training events must be taken, tracked, and reported on as requested by the COR and/or CO.

H.20 LOCAL CLAUSE EPA-H-39-101 CONTRACTOR ACCESS TO EPA COMPUTERS

The personnel listed below have been authorized access to EPA computers in the performance of this contract. In the event of changes to this listing through a reassignment, resignation, termination, completion of a task or any other reason making such access unnecessary, the Contractor shall immediately notify the Contracting Officer.

See attached vendor list

H.21 LOCAL CLAUSE EPA-H-42-103 TEMPORARY CLOSURE OF EPA FACILITIES

(a) (1) The Environmental Protection Agency observes the following days as federal holidays. The term "Federal holidays" as used in this clause shall mean only the following enumerated days and any other days hereafter declared National holidays by the President of the United States. Holidays falling on a Sunday will be observed on the following Monday. Holidays falling on a Saturday will be observed on the preceding Friday.

January 1	New Year's Day
January	Third Monday - Martin Luther King Day
February	Third Monday - Washington's Birthday
May	Last Monday - Memorial Day
July 4	Independence Day
September	First Monday - Labor Day
October	Second Monday - Columbus Day
November 11	Veterans Day
November	Fourth Thursday - Thanksgiving Day
December 25	Christmas Day

(2) Holiday observances of such days by Government personnel shall not be cause for additional period of performance or entitlement to compensation except as set forth in the contract. If the Contractor's personnel work on a holiday, no form of holiday or other premium compensation will be reimbursed either as a direct or

indirect cost, unless authorized pursuant to an overtime clause elsewhere in the contract.

(b)(1) EPA may close an EPA facility for all or a portion of a business day as a result of:

(i) Granting administrative leave to non-essential EPA employees (e.g., unanticipated holiday);

(ii) Inclement weather;

(iii) Failure of Congress to appropriate operational funds;

(iv) Any other day designated by Federal law, Executive Order or Presidential Proclamation; or

(v) Other reason as determined by the EPA (e.g., designated furlough day for federal workers).

(2) In such cases, Contractor personnel not determined by the CO to be exempted (e.g., not performing mission-critical round-the-clock services/tasks) who are not already on duty at the facility shall not report to the facility. Such Contractor personnel already present shall be dismissed and shall leave the facility.

(3) The Contractor agrees to continue to provide sufficient personnel to perform round-the-clock requirements of mission-critical services/tasks already in operation or scheduled for performance during the period in which EPA employees are dismissed, and shall be guided by any specific instructions of the CO or his/her duly authorized representative. In formulating instructions the CO or authorized representative may consider recommendations from regional/local EPA facilities management/operations staff.

(c) When Contractor personnel services are not required or provided due to closure of an EPA facility as described in paragraph (b), the task order price will be adjusted as follows:

(1) For fixed-price contracts, deductions in the Contractor's price will be computed as appropriate for the particular firm fixed price task order in question, e.g.,

(i) The deduction rate in dollars per day will be equal to the per-month task order price divided by 21 days per month. In this example, the 21-days-per-month figure was calculated as follows: 365 calendar days/year – 10 Federal holidays – 104 Saturdays/Sundays = 251 days/12 months = 20.92 days/month, rounded up to 21 days/month

(ii) The deduction rate in dollars per day will be multiplied by the number of days services are not required or provided. If services are provided for portions of days, appropriate adjustment will be made by the CO to ensure that the Contractor is compensated for services provided.

(2) For cost-reimbursement, time-and-materials and labor-hour type contracts, EPA shall not reimburse, as direct costs, salaries or wages of Contractor personnel for the period during which such personnel are dismissed from, or do not have access to, the facility.
(d) The Contractor shall place identical requirements, including this paragraph, in all subcontracts that require performance of work on-site unless otherwise instructed by the CO.

H.22 EP-S-00-02 TASK-ORDER AND DELIVERY-ORDER OMBUDSMAN (SEP 2000) DEVIATION

The Task/Delivery Order Ombudsman for this RFP is:

Name:	Susan Moroni
Address:	1200 Pennsylvania Avenue, N.W. 3801R Washington, D.C. 20460
Telephone Number:	(202) 564-4321
Facsimile Number:	(202) 565-2473
E-Mail Address:	moroni.susan@epa.gov

H.23 SPECIAL SECURITY REQUIREMENTS FOR CONTRACTORS PERFORMING RESPONSE SERVICES AND/OR WORK ON A FEDERAL FACILITY (CUSTOM)

(a) For purposes of this clause, the following definitions apply:

(1) Sensitive Activities: A "Sensitive Activity" is an activity that the Environmental Protection Agency (EPA) has determined to have significant security concerns. A Sensitive Activity will be identified by the Contracting Officer (CO) and can be a task, place, or position that the CO has determined to be of such sensitivity to the Agency that higher level suitability criteria must be met by the Contractor's personnel before performance. Examples of Sensitive Activities are law enforcement activities, geographically sensitive locations such as military installations and Government buildings, and certain IT activities.

(2) Suitability Criteria: "Suitability Criteria" refers to pertinent information obtained through background checks used to identify character traits and past conduct that are reasonably sufficient to indicate whether a given individual is likely or not likely to be able to perform the requirements of a contract, task order, delivery order or subcontract for EPA without undue risk to the interests of the Government.

(3) Contractor Responsibility: Contractors are responsible for performing background checks and applying the Government's suitability criteria before the individual employee(s) may perform task order services for the EPA that involve

access to EPA's Intranet and meet the HSPD-12 criteria. Contractors shall provide only those employees that meet the Government's suitability criteria. Background checks must be performed only once by the successful Contractor for the period of performance of the task order. The coverage of the background check must include, at a minimum, a check of criminal history through national, state, and county law enforcement jurisdictions. Additionally, the check must provide sufficient information to permit the Contractor to apply the Government's suitability criteria. The Contractor is responsible for completing a background check on each of his employees prior to the employees beginning work onsite. To be valid, a background check must have been performed within the 6 month period prior to the employee beginning onsite work. At a minimum, the background check will include:

i. National criminal and civil records
ii. Credit report
iii. Social security number trace
iv. Verification of US citizenship, visa legal H-1B, or legal resident status
v. Written inquiries to appropriate local law-enforcement agencies former employers and supervisors
vi. Check of references
vii. Verification of claimed degrees/education/military service
viii. Professional license and certification verification

(b) In order to perform and continue performing work under this task order, all Contractor and subcontractor personnel shall be subject to an Agency-determined background investigation commensurate with the personnel's level of access and privileges to Agency data and systems. At a minimum, all Contractor and subcontractor personnel must receive a favorable National Agency Check with Inquiries (NACI) plus a credit search report that the Agency will conduct. To avoid unnecessary delays, new Contractor and subcontractor personnel will be granted interim access to Agency data and systems that are required by the task order pending completion of the background investigation. The Government will immediately terminate the Contractor's or subcontractor's employee's access to Agency data and systems, including passwords, if a background investigation produces unacceptable results as determined by the Agency.

(c) Contractors shall verify that the Contractor has met the following minimum pre-screening requirements for the personnel the Contractor plans to use on the task order.

(d) For each Contractor and subcontractor employee that will be assigned to the task order, the Contractor and subcontractor shall complete a Questionnaire for Public Trust Positions, SF 85p, a Credit Release Authorization and two (2)

Standard Applicant Fingerprint Cards (Form FD 258). These forms shall be forwarded to the COR prior to a Contractor or subcontractor employee beginning to work onsite or having access to Agency data or systems.
(e) The Agency will accept existing favorable NACI plus credit search reports for proposed Contractor and subcontractor employees that are not older than three (3) years at the time the Contractor or subcontractor provides them to the COR.
(f) Prior to commencement of task order performance, the Contractor shall notify the CO, in writing, that the background checks and application of the suitability determination criteria, as set forth in (e) above, have been completed for affected individuals.
(g) Under the FY 2001 Defense Authorization Act, (P.L. 106-398), including Title X, subtitle G "Government Information Security Reform." Contractors are subject to the provision of the Computer Security Act of 1987. The Contractor and its team of subcontractors shall conform to the provisions of these Acts.
(h) Whenever the Contractor becomes aware that the retention of an employee for work at an onsite location under this task order is inconsistent with the interests of national security, such information shall be immediately provided to the CO that the Contractor has removed that employee, and the Contractor shall replace the employee with a qualified substitute. The removal and replacement shall be at no cost to the Government.
(i) The Contractor agrees to insert terms that conform substantially to the language of this clause in all subcontracts under this task order. The Contractor agrees to insert terms that conform substantially to the language of this clause in all subcontracts under this task order.

NOTE: This clause applies to Contractor and subcontractor personnel who will work at a designated "Sensitive Site," at a Government site or have access within the Agency computer systems.

H.24 Confidentiality Agreement

In the event that confidential or sensitive information may be given to or obtained by the Contractor in connection with or in the process of this solicitation, the Contractor and Contractor's personnel may be required to execute a confidentiality agreement. It will be incumbent upon the Contractor to ensure that any and all confidential information it receives by whatever means is kept confidential and is not released to any person or entity that is not required to have such information as a part of the preparation of a quote in response to this PWS.

H.25 Protection of EPA Data

The EPA's environmental databases, applications, and systems are a primary resource of the United States and appropriate protection of their integrity, confidentiality, and availability is an absolute necessity. The contractor shall ensure that work performed under this Task Order does not compromise the security of these systems or data contained therein, and shall execute a security program that protects their integrity, confidentiality, and availability consistent with EPA security policy. Any security breach shall be identified, closed, and reported in accordance with established EPA policies and procedures at the earliest possible time. The contractor staff must be fully aware of and liable for unauthorized access by their staff. The contractor shall defend against this type of unauthorized access through policy and technical means, including appropriate background checks to help ensure trustworthiness of contractor employees.

H.26 Conformance to EPA Standards and EPA and Federal Policy

The contractor shall abide by all EPA regulations, policies, and procedures in effect during the Task Order period of performance.

H.27 Project Management Reporting

The COR may request the Contractor to maintain Work Breakdown Schedules (WBS) and other standard project management artifacts. WBS shall be kept up-to-date to allow the Government to provide real-time internal management reports on the status of milestone deliverables, risks, costs, and overall schedule and investment/project status. This information shall be available on a real time basis. Cost information may have to be derived by the Government based on hours and cost data algorithms as it may at times not be directly linked to the monthly invoice cycle.

H.28 Contracting Officer Representatives (CORs)

CORs include the Task Order COR (TOCOR), Alternate TOCOR (ATOCOR), Administrative Alternate TOCOR (AATOCOR), and Technical Monitors (TM). The TOCOR, ATOCOR, and/or AATOCOR may issue Technical Directive Documents (TDD) and technical direction and must provide a courtesy copy to the CO. A TM may issue technical direction related to their respective TDD. Only a COR may call meetings with customers, end-users, or clients. The contractor may schedule meetings with CORs. Meetings seeking technical clarification that do not involve tasking are informal in nature and do not require COR coordination.

This Task Order will be administered by a technical TOCOR with a technical, Alternate TOCOR appointed to perform in the absence of the TOCOR. The

TOCOR will manage the TO and review the deliverables for timeliness and quality as specified in the TO documents. The TOCOR will also be responsible for paying invoices timely. The AATOCOR will:

- Serve as the central point of contact for the ORD TOs for OAM, TOCORs, and Contractors
- Interact with OAM on outstanding TO issues, pending actions, Technical Directive Documents (TDDs), task order modifications, etc.
- Perform financial monitoring/reporting using Compass Data Warehouse
- Provide guidance/training to TOCORs and Technical Monitors
- Manage contractor security clearance process (under the current system OASIS)
- Direct and track mandatory agency training
- Maintain website content about task orders
- Addresses issues/questions and check data associated with the Working Capital Fund (WCF) agreement and ORD's Management Information System (OMIS) record inquiries (e.g., AAA tokens, correct sites/locations, etc.), as needed

H.29 Handling Confidential Business Information

The Contractor shall notify the Government if any situation arises where contractor personnel may have had access to confidential business information, or sensitive information. The situation shall be handled in accordance with CBI related clauses in the contract and the Contractor shall promptly deliver the material to the TOCOR for appropriate action.

H.30 Weekly Staff Report

The contractor shall email a Staff Report listing the contractor/subcontractor employees by COB each Friday to the Contracting Officer, TOCOR, ATOCOR, AATOCOR and other EPA staff as designated by the COR. This report shall identify any updates/changes including additions and eliminations of staff. The changes shall be explained in the email transmittal and annotated accordingly in the spreadsheet. ORD will rely on this report for processing information in our security background check system, for monitoring our Working Capital Fund (WCF) charges from OEI, for tracking mandatory EPA training, for data calls and other information. There shall be an Active spreadsheet for those employees actively working on the TO and an Inactive spreadsheet for employees who are no longer active on the TO. Each spreadsheet shall include the following information:

- Last Name
- First Name

- Employer (contactor or subcontractor)
- TDD #
- EPA Technical Monitor
- Govt Site or Vendor Site
- Location
- Govt Site Only – Building
- Govt Site Only – Room #
- AAA Token Serial #
- Token Expiration Date
- EPA Issued Computer - Yes/No
- EPA Computer Decal #
- EPA Email Address
- Date Submitted into iBoard
- EPA Badge #
- EPA Training
- Notes/Comments

PART II - CONTRACT CLAUSES & PROVISIONS

This section incorporates all of the clauses and provisions of the Offeror's underlying NITAAC CIO-SP3 contract.

SECTION I – CONTRACT CLAUSES & PROVISIONS

I.1 FAR 52.252-2 CLAUSES INCORPORATED BY REFERENCE

This task order incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this address: http://www.acquisition.gov/far/

I.2 FAR 52.209-5 CERTIFICATION REGARDING RESPONSIBILITY MATTERS (APR 2010)

I.3 FAR 52.209-7 INFORMATION REGARDING RESPONSIBILITY MATTERS (FEB 2012)

I.4 FAR 52.209-9 UPDATES OF PUBLICLY AVAILABLE INFORMATION REGARDING RESPONSIBILITY MATTERS (FEB 2012)

I.5 FAR 52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a Time-and-Materials (T&M) task order award that includes Other Direct Costs in accordance with Section B "Price/Cost Schedule" for the support required in the PWS. Other direct costs for long distance travel, training or other items shall be within the ceiling price. The Government contemplates only one (1) award will be made as a result of this solicitation.

I.6 FAR 52.217-5 EVALUATION OF OPTIONS (JUL 1990)

I.7 FAR 52.217-8 OPTION TO EXTEND SERVICES (NOV 1999)

The Government may require continued performance of any services within the limits and at the rates specified in the task order. These rates may be adjusted only as a result of revisions to prevailing labor rates provided by the Secretary of Labor. The option provision may be exercised more than once, but the total extension of performance hereunder shall not exceed 6 months. The Contracting Officer may exercise the option by written notice to the Contractor within 15 days before the task order's expiration date.

I.8 FAR 52.217-9 OPTION TO EXTEND THE TERM OF THE CONTRACT (MAR 2000)

(a) The Government may extend the term of this task order by written notice to the Contractor within 15 days before the period of performance expires; provided that the Government gives the Contractor a preliminary written notice of its intent to extend at least 30 days before the task order expires. The preliminary notice does not commit the Government to an extension.

(b) If the Government exercises this option, the extended task order shall be considered to include this option clause.

(c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed 84 months.

I.9 FAR 52.224-1 PRIVACY ACT NOTIFICATION (APR 1984)

I.10 FAR 52.224-2 PRIVACY ACT (APR 1984)

I.11 FAR 52.227-17 RIGHTS IN DATA—SPECIAL WORKS (DEC 2007)

I.12 FAR 52.227-18 RIGHTS IN DATA—EXISTING WORKS (DEC 2007)

I.13 FAR 52.232-20 LIMITATION OF COST (APR 1984)

I.14 FAR 52.232-22 LIMITATION OF FUNDS (APR 1984)

I.15 FAR 52.232-25 PROMPT PAYMENT (ALTERNATE 1)(JUL 2013)

I.16 FAR 52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER-SYSTEM FOR AWARD MANAGEMENT (JUL 2013)

I.17 FAR 52.232-99 PROVIDING ACCELERATED PAYMENTS TO SUBCONTI

This clause implements the temporary policy provided by OMB Policy Memorandum M- 12-16, Providing Prompt Payment to Subcontractors, dated July 11, 2012 as extended under OMB Policy Memorandum M-13-15 dated July 11, 2013.

(a) Upon receipt of accelerated payments from the Government, the Contractor is required to make accelerated payments to subcontractors to the maximum extent practicable after receipt of a proper invoice and all proper documentation from the subcontractor.

(b) Include the substance of this clause, including this paragraph (b), in all subcontracts with concerns.
(c) The acceleration of payments under this clause does not provide any new rights under the Prompt Payment Act.

I.18 FAR 52.237-3 CONTINUITY OF SERVICES (JAN 1991)

I.19 FAR 52.239-1 PRIVACY OR SECURITY SAFEGUARDS (AUG 1996)

I.20 FAR 52.249-6 TERMINATION (COST-REIMBURSEMENT) (MAY 2004) ALTERNATE IV

I.21 FAR 52.253-1 COMPUTER GENERATED FORMS (JAN 1991) DEVIATION

I.22 EPA ACQUISITION REGULATION (EPAAR) CLAUSES INCORPORATED BY REFERENCE (CUSTOM)
This task order incorporates one or more EPAAR clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of an EPAAR clause may be accessed electronically at this address:
http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title48/48cfrv6_02.tpl

I.23 EPAAR 1552.217-75 OPTION TO EXTEND THE EFFECTIVE PERIOD OF THE CONTRACT--TIME AND MATERIALS OR LABOR HOUR CONTRACT (JUNE 1984)
NOTE: To exercise the option, the Contracting Officer will issue a Standard Form (SF) 30 modification to exercise the applicable task order optional period(s) of performance. Refer to RFP section B.2 'Price/Cost Schedule' for base and optional period timeframes.
(a) The Government has the option to extend the effective period of this task order for **six (6)** additional period(s). If more than thirty (30) days remain in the task order effective period, the Government, without prior written notification, may exercise this option by issuing a task order modification. To unilaterally exercise this option within the last 30 days of the effective period, the Government must issue written notification of its intent to exercise the option prior to that last 30 day period. This preliminary notification does not commit the Government to exercising the option.

(b) If the option(s) are exercised, the "Ceiling Price" clause will be modified to reflect a new and separate ceiling price of [redacted] for the first option period, a new and separate ceiling price of [redacted] for the second option period, and a new and separate ceiling price of [redacted] for the third option period, a new and separate ceiling of [redacted] for the fourth option period, a new and separate ceiling price of [redacted] for the fifth option period, a new and separate ceiling price of [redacted] for the sixth option period.

(c) The "Effective Period of the Contract" clause will be modified to cover a base period from **09/01/2015 to 03/31/2016** and option periods from **04/01/2016 to 03/31/2017; 04/01/2017 to 03/31/2018; 04/01/2018 to 03/31/2019; 04/01/2019 to 03/31/2020; 04/01/2020 to 03/31/2021; and 04/01/2021 to 08/31/2022.**

I.24 EPAAR 1552.224-70 SOCIAL SECURITY NUMBERS OF CONSULTANTS AND CERTAIN SOLE PROPRIETORS AND PRIVACY ACT STATEMENT (APR 1984)

(a) Section 6041 of title 26 of the U.S. Code requires EPA to file Internal Revenue Service (IRS) Form 1099 with respect to individuals who receive payments from EPA under purchase orders or contracts. Section 6109 of title 26 of the U.S. Code authorizes collection by EPA of the social security numbers of such individuals for the purpose of filing IRS Form 1099. Social security numbers obtained for this purpose will be used by EPA for the sole purpose of filing IRS Form 1099 in compliance with section 6041 of title 26 of the U.S. Code.

(b) If the offeror is an individual, consultant, or sole proprietor and has no Employer Identification Number, insert the offeror's social security number on the following line: **TBD**.

I.25 EPAAR 1552.239-70 REHABILITATION ACT NOTICE (OCT 2000)

I.26 DELETED

I.27 PURSUANT TO FAR PART 39.2, ELECTRONIC AND INFORMATION TECHNOLOGY – SECTION 508 COMPLIANCE (CUSTOM)

All deliverables shall be in compliance with the Section 508 Accessibility Standards of the Rehabilitation Act of 1973 and Amendments of 1998. When preparing deliverables, the Contractor shall refer to the most recent version of 508 Standards, which can be found at https://www.access-board.gov/sec508/guide.

I.28 TAX (CUSTOM)

The Federal Government is exempted from paying taxes. The tax exempt number is 52-085-2695.

I.29 FAR 52.219-14 LIMITATIONS ON SUBCONTRACTING (NOV 2011)

I.30 EPAAR 1552.209-74 LIMITATION OF FUTURE CONTRACTING (APR 2004)

ATTACHMENT 1

Title: Support for Evaluation, Testing, and Application of Air Quality Simulation and Related Models

Place of Performance RTP, NC

TOCOR:
William Benjey

PART I - GENERAL INFORMATION

I. Background

The Environmental Protection Agency (EPA), Office of Research and Development (ORD), has a requirement for scientific computing support services for NERL employees located at Research Triangle Park, NC facility(s). The work described here is designed to provide ORD with air quality modeling, testing, and model code modification support services.

1.1. Mission

The National Exposure Research Laboratory (NERL) conducts research designed to characterize and quantify past, present, and future ambient air pollutant levels and resultant exposures on local, regional, and global scales; develop and evaluate sophisticated air quality simulation and related models; develop predictive models for relating source-to-receptor relationships of pollutants for multi-media application; and, provide technical support in air pollutant monitoring and modeling.

1.2 . Description and Objectives

The National Exposure Research Laboratory (NERL) is involved in the development and application of a variety of air quality simulation modeling systems. In addition, NERL and the National Risk Management Research Laboratory (NRMRL) are collaborating on the integration of air emission modeling systems for use with these air quality simulation models. NERL's Atmospheric Modeling and Analysis Division (AMAD) also conducts research activities internally and through contract and cooperative agreements on all meteorological aspects of air pollution control.

To accomplish their assigned mission, AMAD employs a variety of information technology (IT) hardware (e.g., personal computers, Windows, Unix, and Linux-based Servers & Workstations and software operating systems). The AMAD server/workstation environment is currently composed of Dell Intel based Unix-based servers and workstations. The contractor must have a Research Triangle Park, NC area office from which remote access exists or can be easily established in order to efficiently complete the air quality modeling-related work described herein.

Contractor efforts to perform the work described here shall provide the

following: (1) prepare quality controlled data sets for model executions; (2) perform model executions; (3) provide statistical and graphical outputs for analysis and interpretation of model study results; (4) provide documentation and user access instructions for models, systems, databases, and procedures; and (5) provide software modifications for the various air quality modeling systems and supporting analysis packages.

II. Work Issuance

The work will be specified by written work requests issued by a Task Order Contracting Officer's Representative (TOCOR). The work requests will provide more specific direction and schedules for the work described in this scope. The contractor shall respond to each work request with an estimate of hours and cost and any questions or comments with regard to the scope and schedule.

III. Scope

Task 1: Support for Evaluation, Testing, and Application of Air Quality Simulation and Related Models

Task 2: Documentation and Deliverable Management

Task 3: Financial Reporting/Cost Tracking

IV. Personnel Qualifications

The contractor's technical personnel shall possess at least the skills and experience for air quality modeling-related work described in Appendix D. These skills and experience are crucial to the satisfactory completion of the work described.

PART 2: WORK REQUIREMENTS

Task 1 Support for Evaluation, Testing, and Application of Air Quality Simulation Models

Much of this work involves the execution of research air quality, related meteorological and multi-media model applications and the preparation of computer software and input databases for these model applications. Although the general nature of the work is well defined, the specific applications, number, and type of model executions may vary depending on previous model results, shifting agency priorities, and funding availability. Detailed specifications for each application will be provided in the form of written work requests. Before beginning work on a work request, the contractor is expected to have approval from the TOCOR. Additional technical clarification may come from a technical contact working on specific subtasks in AMAD.

The work for this task is divided into seven subtasks: (1) Model Development and Testing (2) Model Evaluation Support, (3) Exposure Assessments, (4) Emission Modeling, (5) Statistical and Graphical (GIS) Analyses of Model Simulations, (6) Support for the Development of Multimedia Modeling Approaches and Tools, and (7) Regional Climate and Environmental Interactions.

. Subtasks 1 through 4 and 6 and 7, each require that the contractor

perform four basic activities as a part of addressing the larger focus of the subtask. These basic activities include:

Activity 1 - Emission Data Preparation

The contractor shall execute emission models and perform emission data processing, including the Sparse Matrix Operator Kernel Emission (SMOKE) model, to provide required anthropogenic and biogenic emission data for model applications. Pre-processing of inputs required by the SMOKE system and post-processing of the SMOKE outputs using such tools as python scripts is also required. The contractor shall also retrieve emission data from the National Emission Inventories (NEI) and/or related modelling inventories prepared by EPA, and execute SMOKE to provide required source-category specific future year and control strategy emission data for model applications. Emission modeling files (input and output) must be managed and tracked using the EPA Emission Modeling Framework (EMF). The contractor shall perform quality control (QC) checks on all emission data files, in accordance with the Quality Assurance Project Plan (QAPP) and associated Standard Operating Procedures (SOPs) that shall be prepared as the initial product for this task order, and document key QC values and discrepancies in official metadata files or QC file logs. Additional graphical and tabular summaries may be required in writing.

Activity 2 - Meteorological and Air Quality Data Preparation

The contractor shall develop the necessary meteorological initial condition (IC) and boundary condition (BC) files needed for air quality modeling. As part of this effort the contractor shall acquire and process raw meteorological data Air Quality System (AQS) pollutant concentration data, execute and maintain model processors, perform and document all necessary QC checks at each stage of the work. The contractor may be required to make minor modifications to model, processors, and/or scripting codes, by work request. The contractor may be required to develop small utility software codes to accomplish some tasks, as specified by work request. The contractor may also be required to use existing meteorological files generated by the Weather and Research Forecasting (WRF) and successor mesoscale meteorological models. The contractor shall quality control the final output from this effort before the data are used as input to the core air quality models and document QC results in a metadata file or official QA file logs in accordance with the approved task order QAPP. The contractor shall manage all data sets in accordance with the approved AMAD naming and file organization protocol.

Activity 3 - Model Executions

The contractor shall make specified model executions on the HPCC network or EPA's computer cluster, at the Environmental Modeling and Visualization Laboratory (EMVL) or computing resources designated by the TOCOR. This work will include software support, execution of the proper run streams, transferring data files and computer software between the various computer systems, managing and archiving the model output data bases, and ensuring and documenting quality control over all phases of model execution. The contractor shall perform model executions needed for model applications.

Activity 4 - Product Preparation

The contractor shall prepare and submit a standard quality assurance summary

package (described in the approved task order QAPP) for each work request under the task order which shall include statistical and graphical summaries of emissions, raw meteorological and air quality data, model input data, and core model-generated concentrations of various chemical species. Each standard package should also include a list of all computer files either used or generated from the model application. This list shall include, at a minimum, file names, detailed description of contents and format, storage media, and physical location. The summary quality assurance summary packages shall be updated at the end of each month and placed on the HPCC at a location to be designated by the TOCOR. The contractor shall maintain and continuously update a register of meteorological and air quality model output files and their location in the EPA computer system throughout the term of this task order. The updated register shall be provided to EPA each month on the same schedule as the monthly report.. As previously indicated, emission files shall be recorded within the EMF system.

The contractor shall submit written documentation of model application run streams and analytical procedures to the TO COR or work request specified technical contacts on a timely basis and in accordance with the QAPP. The contractor shall generate standardized QC packages for each work order that shall include contoured or grid plots of selected input data, modelled concentration fields, and quality assurance checklists. All tabular and graphical outputs shall have a traceable identification to ensure their validity. A final QC package shall be electronically posted to a site designated by the TOCOR within **30 working days after the completion of the final deliverable of each work request.** Notification of the posting of QC packages shall be made by e-mail to the TOCOR and work request designated technical contacts.

The contractor shall also produce specialized analysis packages as requested by written technical directive. These specialized analysis packages respond to scientific or policy issues raised on review of the results of a particular application. These specialized analyses may include statistical summaries, high quality graphics, figures, and text for oral and written presentation of the model application results. The contractor shall also execute data base extraction programs to store model-related data in GMISS or other formats that provide easy access for graphics/analysis using Oracle, ARC/INFO, AVS, VIS5D, VERDI etc. Specific work will be defined by formal work requests issued by the TOCOR. All files shall be managed in accordance with AMAD naming and archiving policies, as referenced in work requests.

TASK 1.1 Model Development and Testing

As CMAQ or related successor EPA air quality models (collectively referred to as Air Quality Modeling Systems or AQMS) receive ongoing development as operational tools for the regulatory community, the contractor shall participate in model development efforts primarily as "alpha" testers for new model versions. This may require testing and debugging new sections of model code and developing new run scripts. The contractor shall perform specified work to make CMAQ or related successor air quality modeling code ready for routine applications. Some software programming and data management support will be required for development and testing new research and proposed operational versions of the modeling systems. This effort will help support future release versions. Although specifics will be provided via detailed work requests, some general work areas are defined below.

(1) Applications and Development support for CMAQ and related model code: A number of model simulations will be undertaken using the Community Multiscale Air Quality (CMAQ) or successor models, including pre-processors, post processors, and other associated science and visualization programs. These applications will provide a basis for implementing annual improvements and releases of the operational version of CMAQ or successor model codes for evaluation and application studies.

(a) Create new meteorological model data sets and test, implement, and run mesoscale meteorological models for multiple global/continental/regional/urban scale domains. This will likely involve the following efforts:

- Run the National Center for Atmospheric Research Weather Research and Forecasting Model (WRF) for selected periods for various nested horizontal resolution domains (for example, 36, 12, 4, and 1 km) using different initialization fields or dynamic, cloud, surface exchange, and data assimilation options, as specified by work request. This will include running pre-processors (including variational assimilation), model prediction, post-processing, and visualization software packages.

- Provide quality assurance and metadata updates of the output meteorological data.

- Quantify consistency between the output dynamic and thermodynamic parameters.

- Run CMAQ's Meteorology-Chemistry Interface Processor (MCIP), to prepare meteorological input data for CMAQ. Some code modification, testing and quality assurance of output meteorological parameters will be required.

- Process meteorological observations for data assimilation and model verification.

- Develop minor software codes, as specified, to assist in data preparation, model evaluation and quality assurance.

(b) Improve, implement, test and run CMAQ pre-processor codes

- Run the MCIP to provide meteorological data for CMAQ and emission modeling. Input to MCIP may be archived meteorological model output fields, or may be prepared by the contractor under a work request. Some code modifications, testing, and quality assurance of output meteorological parameters may be required.

(c) Integrate and test new processors and modules for CMAQ using AMD's configuration management system.

(d) Test new configurations of the 2-way coupled WRF-CMAQ model. As new components and processes are implemented in the WRF-CMAQ system the Contractor shall assist in the testing, evaluation, and debugging of new configurations. This work may include acquisition and processing of non-standard observation data such as from intensive field campaigns or remote sensing data from ground, aircraft, and satellite based sensors, for advanced model performance analysis.

(e) Support for chemical mechanism development. This effort includes the development of tools and inputs, as well as the processing of model-ready emission files for new chemical mechanisms or modification of existing mechanisms. These modifications may require the addition of model species, the disaggregation of existing model species, or the dynamic partitioning of

emissions between gas and aerosol species. The work may also include developing tools to create the emissions inputs for implementing and testing source apportionment or sensitivity tools such as ozone source apportionment or VOC relative reactivity assessments. The contractor may also be required to provide assistance for the improvement of existing chemical mechanisms (i.e. implementation representation of new reactions or new species; assistance with condensation or speciation of chemicals to model species) and the development of new techniques for characterizing atmospheric chemistry (i.e. dynamic description of complexity, implementation of condensation techniques or automated generation of schemes).

(f) Support for development of next generation air quality modeling. The next generation AQMS beyond CMAQ is likely to be an integrated meteorology and chemistry system on an icosahedral global grid structure with grid resolution refinement capability. This effort will include continuing the development and testing of the Ocean-Land-Atmosphere Model with chemistry (OLAM-Chem) and testing of NCAR's Model for Prediction Across Scales (MPAS). As EPA scientists and their collaborators develop these models, the contractor shall be required to assist in geospatial data processing (e.g. land use, terrain, and emissions), output processing and visualizations, as well as performing and evaluating model test simulations.

(2) Applications support for sensitivity tests with CMAQ: The contractor shall run CMAQ on the EPA NESC computers, EPA- HPCC network, or other hardware systems, as specified by work request, to examine sensitivity tests defined in specific work requests. These work requests will involve minor changes in one or more of the following areas: emissions, meteorology, deposition, and chemistry.

(3) Fine scale modeling support: The contractor shall perform and provide CMAQ air quality model simulations at fine (4km to 1 km grid spatial resolution) for one or more testbed urban areas.

The Objective of this effort is to support investigations aimed at reducing uncertainty in air pollution exposure assessments in urban areas by developing fine scale modeling capability and techniques and by conducting modeling assessment studies based on these efforts.

This task will consist of performing sets of air quality model simulations and analyses to support both model testing and sensitivity studies, as well as model application studies of meteorology and air quality in urban areas. Model test beds and simulations periods for this effort will be specified in work requests. The primary meteorology model is WRF, both for urbanized (that is, with various urban canopy parameterizations (UCP)) and non-urbanized versions of the respective modeling systems. Selected outputs from these meteorology models will be used to prepare emissions using SMOKE and the subsequent CMAQ simulations.

The EPA will provide a base case executable and model specifications (such as vertical structure) and science options for the CMAQ simulations and will also provide technical specifications on the various model UCP configurations for the sensitivity studies. Additionally, the EPA will provide technical specifications for post processing analyses of these simulations, and a list of model extraction outputs; these specifications are designed primarily to illustrate the results of the sensitivity studies. The Contractor shall create and document the requisite executables based upon the base case

executable for the requisite sensitivity studies. The Contractor shall perform the simulations for these various sensitivity study configurations. The Contractor shall prepare and provide post processing and model extractions of MM5, SMOKE and CMAQ output data needed to support the sensitivity studies.

TASK 1.2 Model Evaluation Support

EPA performs model evaluation to assess how well atmospheric and air quality models (such as WRF, CMAQ, or the coupled WRF/CMAQ models) perform compared to observational data and to better understand the role of the model inputs and model processes in the air quality predictions. Evaluation studies require model execution and comparisons of results with observational data from a variety of sources, and the analyses of model results consider different spatial and temporal scales. Inter-relationships between different chemical species are considered as well as the influence of uncertainties in meteorological predictions and emission estimates. Model evaluation serves dual purposes: evaluation is necessary to characterize the accuracy of model predictions and evaluation is used to identify improvements that are needed in modelled processes within the air quality model or in model inputs. While many of the air quality model simulations are presently performed by EPA, the contractor may be tasked to provide support with model evaluation, including the preparation of model inputs, execution of the model, post-processing of model outputs, and in the analysis of results. There are several anticipated model evaluation efforts that may require contractor support, as described in the following paragraphs:

(1) Air Quality Model Inter-comparisons: Model inter-comparisons may involve simulations of several air quality modeling systems or with different versions of a single modeling system. The contractor may be required to conduct model simulations using model input data (also developed by the contractor) for each model version. The time periods for testing may range from months to multiple years.

(2) Biogenic Emission Sensitivity and Testing: This effort involves the effects of any changes to the biogenic emissions model on the simulation results for a specified air quality model. This could include examination of the sensitivity of air quality model predictions to natural emission sources such as lightning NOx or methanol.

(3) Air-Surface Exchange Sensitivity Studies: The contractor shall be required to create multiple sets of model simulations using the same time periods and same emissions with different versions of EPA specified AQMS, including instrumented models, to examine the sensitivity of the predicted concentrations and deposition of nitrogen, sulphur, and carbon species to uncertainties in air-surface exchange. For example, two versions of CMAQ will be specified by EPA and the contractor shall develop needed input files, perform annual runs with the models, post-process the data and assist EPA personnel with the analysis of the data. It is expected that annual runs will be performed for two simulation years. Exact years will be specified by EPA.

(4) Meteorological Model Sensitivity and Testing: This effort requires model runs using WRF and/or other meteorological models, with different configurations of model physics as well as different vertical and horizontal resolutions. Data to support model setup and four-dimensional data

assimilation must be collected for new simulation periods to be specified in work orders. Time periods of testing may range from months to multiple years. Evaluative statistics will be developed to quantify the skill of the meteorological model. Several model versions may be compared in a single study.

(5) Evaluation for Nutrient and Co-Pollutant Deposition: The contractor shall develop needed input files, run EPA specified AQMS, post-process air concentration and deposition model output and assist in analysis of data needed to compare model output with measurements from special field studies for evaluation of model algorithms, including:

(a) Multiple developmental versions of CMAQ, incorporating updates to the dry deposition algorithms, shall be run by the contractor using a 12-km grid size and, for select periods, using a 4-km grid size or even a 1-km grid size nested over a field study site. The contractor shall also assist EPA in developing special diagnostic files (e.g. for allowing comparison of CMAQ deposition with throughfall measurements).

(b) The contractor shall contribute to comparisons of CMAQ output against satellite measurements, aircraft observations, and surface measurements. The contractor shall develop model input files and run CMAQ for an annual simulation as well as process satellite air quality data for use in the analyses. Existing tools shall be used by the contractor to pair aircraft flight tracks with CMAQ to create paired in space and time data streams.

(c) The contractor shall conduct inverse modeling (e.g. adjoint, inverse Kalman filter) to assimilate observations to optimize and identify errors in emissions inventories that may contribute to model simulation error. The contractor shall run the instrumented model, assist in the data assimilation, and update emission estimates based on results.

(d) The contractor shall develop initial and boundary condition files to include chemical species of emerging concern (e.g. N_2O) which are not currently in the NEI for use in CMAQ model simulations. The contractor will further assist EPA in using these simulations to evaluate new meteorologically driven emissions estimates against field study data.

(6) Ozone and PM Evaluations: Several air quality model evaluation studies may require development of meteorology and emission data as well as execution of the AQMS (such as CMAQ). An important impending study will be the evaluation of the FY15 release of CMAQ. Most of the effort for this study will be in generating emissions and possibly the WRF/CMAQ simulations.

(7) Diagnostic Evaluations: Diagnostic evaluation studies typically involve air quality model simulations for special, high-quality data sets using high model resolution or special instrumented versions of the air quality model to capture model sensitivities to input parameters or for source attribution. One diagnostic evaluation effort currently underway is based on the DISCOVER-AQ study for Baltimore-Washington D.C. 2011. New time periods will be defined in FY15, and may include other DISCOVER-AQ field experiments (such as the California 2013, Texas 2013, or Colorado 2014 field studies). The study period will be defined based on the available field study data (typically on the order of a month) for the application of finer spatial resolution nests of the meteorology, emissions and CMAQ output. Special extraction data sets from CMAQ output will be defined. Other diagnostic studies may involve air

quality model sensitivity analyses that use month-long to annual time periods for model runs. The diagnostic air quality model evaluations may involve special versions of the air quality model, such as the model instrumented with the direct decoupled method for capturing model sensitivities. Assistance may be requested in the analysis of results to contribute to the diagnostic evaluation.

(8) Space-Time Evaluations: This effort may require the generation of continuous, multi-year data sets of model simulations for time periods up to 20 years in length for space-time statistical examinations. Most of the periods overlap with other existing simulations, such as the 2002/2005/2006 annual runs. However, some gaps between years may need to be filled to meet the needs of these evaluation approaches and, in addition; the data retrieval requirements may be different.

(9) Emission Reduction Studies: The contractor may be requested to prepare emission data and execution of air quality models to support spatial and monitoring site analyses that investigate the impact of emission reductions on air quality. EPA is interested in assessing the response of key pollutants (such as ozone) to precursor emission reductions (such as NOx), in both retrospective dynamic evaluations studies as well as for predicted future air quality. Emissions-based air quality modeling is used to provide analyses for the EPA investigations. Detailed analysis will be performed on the air quality model results to understand model behavior and to indicate needed model improvements.

(10) Impacts of current and future energy activities on air quality: Under this work, the contractor shall use both existing data and new source-specific emissions data to develop air quality estimates of the effect of current and potential energy-related activities (i.e. biofuels, oil and gas, solar networks, etc.) on air quality across the continental U.S. Other inputs to the model (i.e. land-use and albedo changes, emissions from other sectors) may also require modification, depending on the scenario. These analyses will use observations from national monitoring networks, as well as from specialized studies (including near energy-producing operations) to validate the model predictions. This may include running versions of the air quality model with a sensitivity capability (i.e. direct decoupled method) to output the sensitivities of concentrations to changes in energy emissions including type of activity, number of sites, etc. Associated analyses may be required to account for the ways in which uncertainties in emissions might change the predictions, identify potential gaps in the inventory that requires improved activity level and/or emission factor data, and determine where refinement of the inventory will have the biggest impact on reducing uncertainty.

TASK 1.3 Exposure Assessments

In order to support EPA's research on the simulation of pollutant and nutrient concentrations, transport in and exchange between air, land, and water needed for human and ecological exposure assessments, the contractor shall (1) prepare and quality control input data sets for simulations with air quality modeling systems, (2) perform requested model executions; (3) document model runs in an archiving system to be specified by EPA, prepare metadata files and, (4) provide statistical and graphical outputs for analysis and interpretation of model study results.

Exposure assessment work includes the following:

(1) Chesapeake Bay/Mid-Atlantic and Northeast/Southeast nitrogen deposition studies: The Chesapeake Bay effort will require the contractor to prepare model input data sets, running air quality modeling systems, documenting the model runs and providing statistical and graphical outputs as needed for the EPA-specified CMAQ scenarios including a base year as well as a future scenario. The model runs will be at a continental 12-km resolution U.S. grid size and will use EPA -specified 2011 meteorology. Emission data from the EPA Office of Air Quality Planning and Standards (OAQPS) 2011 platform and projected 2030 emissions based on the most recent regulations in the Clean Air Act (CAA) will be used in the initial runs. The model runs shall be repeated with updated base and projected years, alternative grid resolutions (e.g. 4 km), and updated EPA Air Quality Modeling Systems (AQMS). Post-processing of the model output by the contractor shall include monthly deposition data for the Bay Watershed model segments. The contractor shall assist EPA with comparisons of the EPIC fertilizer application used in the CMAQ simulations with the Bay Watershed model estimates of fertilizer application.

Additional source attribution simulations of Chesapeake Bay deposition, using CMAQ with the DDM-3D option implemented, may be requested by EPA, particularly for nitrogen oxides. The contractor shall prepare needed input files, run CMAQ/DDM-3D (Direct-Decoupled Method - 3 dimensional), post-process the model output data and assist with interpretation of results. The base year of these CMAQ/DDM-3D emission sensitivity model runs will be the 2030 Tier3 Control case with 2011 meteorology. The model runs shall be repeated with updated base and projected years, alternative grid resolutions and domains, and using an updated EPA Air Quality Modeling Systems (AQMS). EPA will be continuing to develop additional capabilities in CMAQ/DDM-3D. When a DDM-3D version of CMAQ with bi-directional ammonia exchange is ready, the contractor shall prepare needed input files and run the executable provided by EPA for designated test cases. Multiple model runs are anticipated with variations in model version, grid resolutions and domains, emissions scenarios, and meteorology.

The Northeast and Southeast nitrogen deposition studies will use the set of 12-km CMAQ runs developed for the 2012 base meteorology as an independent set of base and future CAA projection runs. Contractor effort will likely be needed to use GIS tools to link CMAQ grids to the HD+ polygons used by the USGS SPAtially Referenced Regressions On Watershed attributes (SPARROW) model. These polygons will be supplied by USGS or USGS will use Shape files of CMAQ output created as part of this project. The Southeast nitrogen study work also includes conducting CMAQ DDM-3D runs for 2012 to examine oxidized nitrogen and ammonia/ium wet and dry deposition budget predictions from CMAQ for 36-km grids across the continent for 5 specified sectors each of nitrogen oxide and ammonia emissions for the 2012 meteorological conditions. Further studies may extend this work to include the refinement of grid spacing to 12-km over the Southeast. Specific scenarios will be specified by EPA.

(2) Continental Nutrient and Acidic Deposition and Critical Load Studies: This work will focus on deposition driven by NOx, NH3 and SOx emissions across the U.S. and entails development of multiple years of deposition simulations. EPA has developed a series of CMAQ v5.02 simulations, which incorporate bi-directional air-surface exchange, spanning 2002 to 2012 and beyond. The first aspect of this work is to extend the time series of model

runs. The contractor shall develop meteorological input files using EPA – specified updated versions of the meteorological model. EPA will also specify the version of CMAQ that the contractor shall use to generate the output files. Since these model runs may differ from previous runs, the contractor shall assist EPA in developing methods for harmonizing these data or shall rerun the meteorological and air quality modeling for prior years using the updated models. All CMAQ model output shall be post-processed by the contractor to perform precipitation corrections and wet deposition bias adjustments. The contractor shall process the data to shape files and other GIS coverages specified by EPA for use in EPA's National Atlas as well as the National Atmospheric Deposition Program's Total Deposition project and other assessments. Other special studies shall be performed by the contractor. For example, regional studies of land use-specific dry deposition from a new CMAQ version shall be performed as identified by EPA.

(3) Land and agricultural management studies: The EPA is interested in exploring changes in regional to global nutrient (N and P) and hydrologic losses under current land use and management practices and weather as compared to future climate, land use and land management scenarios. The contractor shall be familiar with the FEST-C interface (available for download at www.cmascenter.org) and be able to produce air quality model-ready input files for domains and scales ranging from a US1 12km CMAQ domain to hemispheric and global scale applications supported by FEST-C. The contractor shall be able to modify FEST-C land use fraction and management input files to reflect changing land use and land management scenarios. As directed by EPA, the contactor shall propagate these land use and land management changes through meteorological/climate model and air quality model simulations. Health-effects modeling require additional air quality simulations. Each health metric will require a minimum of 3 to 4 annual simulations in addition to a maximum of 3 health effects "base-case" simulations. The contractor shall provide limited (less than 250 hrs/yr) GIS support for this assessment element (see Task 1.5).

(4) Gulf Coast and climate studies: The EPA Gulf Coast study is interested in nitrogen deposition to the Mississippi-Atchafalaya River Basin (MARB) emptying into the Gulf of Mexico (GOM) and to the water surface of the GOM over and around the dead zone. The contractor shall process CMAQ deposition fields on a monthly basis with precipitation corrections and wet deposition bias adjustments. Initially, monthly 12-km simulations for 2002 to 2007 will be used for this work. Over the GOM there is interest in reducing the grid size to 4-km to better match the GOM water quality models' grid size. Priority years for reducing grid size are 2006 and 2003. This will require meteorological model development focused on good representation over the land and ocean boundary. The most advanced CMAQ would be used for this work and EPA may request that the entire 2002 to 2007 period be re-simulated with the new setup. GIS work will be required to map the CMAQ grids to the Gulf Coast hydrodynamic and water quality models. Then deposition fields and companion hydrology for a base climate decade is to be developed along with a future climate decade to be able to estimate the change in deposition and MARB delivery of nitrogen to the GOM and the dead zone due to estimated changes in climate.

In addition to nitrogen deposition, EPA is also interested in dispersion and deposition due to oil spills in the Gulf. The contractor shall assist EPA in performing simulations of pollutant transport and dispersion following the BP Oil Spill using AERMOD and HYSPLIT, as well as quality reviews of satellite

imagery and short-duration CMAQ simulations.

(5) Middle-Florida assessment: The contractor shall prepare input files and make CMAQ runs for Middle-Florida using the latest version of CMAQ (provided by EPA) and using the NLCD land cover data set specified by EPA. Simulations will be nested within 12km CONUS CMAQ runs. Tampa Bay and the Indian River Lagoon domains will be simulated at a 4km grid size for years specified by EPA. The Indian River Lagoon domain may also be simulated at a 1km grid size for the same select years. Contractor shall post-process the data to account for precipitation adjustments and bias corrections as well as the development of GIS data sets needed for TMDL analyses.

(6) Dispersion and deposition in urban environments: There is increasing interest in characterizing deposition in urban environments which presents additional modeling challenges given the scale. The contractor shall develop model inputs, run air quality models, and post process results for urban domains specified by EPA and assist in analyses of the data.

(7) Deposition in high elevation ecosystems: High elevation ecosystems are particularly susceptible to the effects of deposition and EPA is interested in better characterizing this deposition. The contractor shall prepare input files, run EPA-designated AQMS, and post-process data for studies focused in these areas. Multiple simulations will be required at various scales. The contractor shall assist EPA in analyzing results and comparing results against measurements of both meteorological data such as cloud water and chemical data such as concentrations, fluxes and throughfall measurements.

TASK 1.4 Emission Modeling Support

Emission data processing and emission model development are integral parts of air quality modeling. They include the testing and the execution of scripts, programs, and computational tools to create quality assured, model ready emission datasets as well as the creation of the documentation of the methods and tools used. The contractor shall be required to provide support in software development, modification, and/or integration of emission models with, at a minimum, the Sparse Matrix Operator Kernel Emission (SMOKE), the Emission Modeling Framework, the SMOKE/MOVES system, and the Biogenic Emission Inventory System (BEIS). The contractor shall also be required to provide support in the software development, modification, and/or integration with related emission pre-processing tools which include but are not limited to the following: Geographic information systems (GIS) and related tools such as the EPA Spatial Allocator, EPA's speciation tool, EPA's surrogate tool, and ancillary temporal allocation tools. All emission modeling and files shall be tracked using the EPA Emission Modeling Framework (EMF). The creation, import and export of emission datasets with the EMF, and the successful execution of emission models and tools with the EMF are critical.

The purpose of this subtask is to obtain model program modifications and model execution support in the development of emission models and source inventories to be used for air and multi-media pollutant simulation models. This includes the development of publication-quality hard copy outputs using such tools as VERDI, SAS, R, and GIS. The contractor may also be directed, via formal written work requests, to investigate and report on hardware and software maintenance options related to the efficient performance of emission-related work.. Reports detailing the development of the inventory systems and emission model outputs, including quality control reports

consistent with the Quality Assurance Project Plan (QAPP) to be developed for this task order, will also be required. Although the details of all emission-related work for the duration of this task order are not known, descriptions of work anticipated at this time are listed below. The contractor will receive specific instructions via specific work requests.

(1) Testing of Land use pre-processor for BEIS and CMAQ. The contractor may be required to test and compare different land use and land cover datasets for use in the CMAQ system and the BEIS component of SMOKE. This may include the optimization and running of computer scripts and programs written in "R" statistical analysis language.

(2) Emission Datasets for the Evaluation of the WRF-CMAQ, standalone CMAQ system, or other AQMS. The contractor may be required to perform the following: a) pre-processing of datasets and ancillary inputs needed in the SMOKE system including spatial surrogates, cross reference files, temporal allocation files, chemical speciation files, lightning NOX inputs, land use/land cover dependent inputs b) execution of the SMOKE system via the EMF with integrated quality control and quality assurance procedures. c) post-processing of SMOKE outputs including post-processing of reports, quality assurance of emission datasets, automated analysis of log files, reports, and model ready datasets. Emission processing and tools may need to be developed on the global scale for various geographic projection grids and grid structures including latitude/longitude, stereographic, and icosahedral grid structures. In addition emission processing will be performed for traditional Lambert conformal grid systems and for fine scale modeling on the order of 1km.

(3) Model inputs of emissions from current and future energy scenarios. This work will focus on developing new tools and applying existing tools to create emission inventories for a range of potential future energy scenarios (i.e. biofuels, oil and gas, solar networks, etc). This will include assembling information on individual source measurements/speciation (such as process-specific emission measurements, fence-line measurements, particulate organic tracer measurements, and remote sensing information) to develop temporally and spatially resolved emissions, utilizing both top-down and bottom-up analyses, so that the information can be used in a variety of modeling platforms and studies. This effort may also include the use of other tools or development of new tools to modify emissions factors for the effect of future control technologies and other mitigation strategies, the sensitivity of this mixture of energy sources to economic and other factors (i.e. political, regulatory, climatological, etc), the modification of spatial and temporal distributions to account for future growth by region and technology, and methods to incorporate uncertainty into future emissions projections.

(4) Fertilizer Emission Scenario Tool for CMAQ (FEST-C). The contractor shall familiarize themselves with the FEST-C interface (available for download at www.cmascenter.org) and be capable of producing agricultural crop related N2O and, if available, NO, CO2 and methane emissions for user-specified CMAQ domains and resolutions.

(5) SMARTFIRE/CONSUME/Bluesky. The contractor shall be able to execute and set up inputs for use with the CONSUME/Bluesky framework to produce emission estimates for wildfires and prescribed burns. In addition the contractor shall be able to perform quality control and quality assurance procedures for such runs. In addition the contractor shall be able to familiarize

themselves with the SMARTFIRE system and provide support in the use of the system both for inputs and outputs.
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TASK 1.5 Statistical and Graphical (GIS) Analyses of Model Simulations

EPA requires statistical and data/graphical analysis support for EPA air quality model multimedia application studies. The application studies are in support of studies and assessments called for by the Clean Air Act Amendments, by EPA Program Offices, and by the EPA's multi-media program.

The whole range of detailed statistical and graphical analysis needs for the period of the task order is not completely known in advance. Specific work requests will be issued based upon work needed to support ongoing air quality modeling-related research. For example, the contractor shall provide statistical analyses and graphical/GIS support to develop model-based deposition loadings~~,~~ and air concentrations defined as scenarios, or studies based on multiple simulations years. The analyses will involve annual and monthly fluxes as well as concentration distributions for annual periods. The contractor shall provide graphical and statistical analyses to aid EPA in development of caveats and interpretive understanding of the CMAQ predictions used in the application studies. Known anticipated statistical and graphical support needs are given as follows:.

(1) Nitrogen Deposition to Coastal Estuaries.

(a) Chesapeake Bay Study. The 12-km grid has been mapped to the new Chesapeake Bay Watershed model segments that were developed for the 2007/08 Bay Re-evaluation. A 4-km grid will need to be mapped in the future. A 2011 base meteorology set of CMAQ scenarios (a base case and a future projection) will be run for the Chesapeake Bay 2015 TMDL incremental evaluation. The relative and absolute changes from the 2011 Base Case at each watershed model segment will be quantified by the contractor and passed to the watershed modellers of the Chesapeake Bay Program Office. Post-processing analyses will be required that will be specified by the Chesapeake Bay Program Office in the course of the 2015 TMDL evaluation. This work is expected to require extending the 2011 Base Case analysis to a 4-km grid over the Bay watershed. Also the contractor shall map the monthly deposition from CMAQ to the Chesapeake Bay watershed and Bay surface for the period 2002 to 2012. The contractor will need to develop a streamlined mapping approach to accommodate this expanded transfer of deposition fields to Chesapeake Bay.

As a different analysis effort, the contractor ~~will~~ shall assemble deposition source attribution runs made with CMAQ DDM-3D for Chesapeake Bay states (sectors within each of the states are tracked) that have the deposition fractions from each source extracted. The contractor shall summarize deposition fractions with respect to the Chesapeake total watershed, major tributaries above and below the fall line, the Bay, and each of the Bay state contributions to each state and the watershed and Bay. The result is a budget analysis of what source is responsible for what fraction of the deposition. The contractor shall compile source attribution fractions in workbooks and worksheets in Excel by further analysis by EPA. This analysis is done separately for oxidized- and reduced-nitrogen sources.

(b) Gulf of Mexico Hypoxia Study. The contractor shall supply monthly CMAQ deposition from 12-km grids for 2002 to 2007 that has been precipitation

corrected using TRMM satellite data to EPA to connect with EPA's hypoxia models. The contractor will use GIS geodata mapping that covers the Gulf hypoxia domain. A key year for monthly deposition to the Gulf of Mexico (GOM) is 2006. It is anticipated that when 2002 to 2007 has been re-simulated at 4-km grid resolution over the GOM, a new transfer of deposition data to the GOM will be required.

(2) National and Regional Deposition Mapping

(a) Acidic and Nutrient Deposition. The contractor shall map and supply GIS outputs for continental 12-km CMAQ deposition results from different application studies. Regional mapping is expected to involve 4-km CMAQ deposition results. Regional mapping, specified by EPA, is expected to focus on regions of interest to critical loads, regions with complex terrain, such as the West coast of the US or the Adirondacks in the Eastern US. The deposition fields will be precipitation corrected and wet deposition bias adjusted for the creation of GIS shape files. The GIS mapping typically at an annual time scale. The contractor will transfer the mapped fields to scientists in EPA and other agencies. Multiple years spanning at least 10 years are anticipated for continental analyses. Regional analyses may include fewer years. Precipitation and land use mapping may also be required.

(b) Gulf Coast and Coastal Ocean Study. For this work the contractor shall compute monthly-averaged wet and dry deposition from CMAQ first at the 12-km and then at the 4-km resolution of oxidized- and reduced-nitrogen deposition to the coastal ocean over the continental shelf and over the Gulf Coast. Average deposition to four sections of coastal ocean (NE full, NE short, SE, Gulf Coast) is to be calculated. Satellite precipitation data (TRMM) for Chesapeake Bay will be accessed and stored and used to precipitation correct the wet deposition fields. The contractor shall process a times series such as 2006 to 2012.

(c) National EnviroAtlas. The contractor shall map the CMAQ nitrogen and sulphur deposition to 12-digit Hydrologic Units for inclusion in an EPA national EnviroAtlas. This will involve working with EPA to obtain the latest version of the national 12-digit Hydrologic Unit definitions used by the Atlas team and following their protocol for data layer development and transfer. The mapping will initially be for annual averages. However, other air pollution indices will be developed that may depend on development of statistics using higher temporal resolution.

TASK 1.6 Support for the Development of Multimedia Modeling Approaches and Tools

Support is required for EPA's ongoing development and evaluation of new approaches and software to support environmental modellers. This may include the development of new techniques and the requirements analysis, design, development, evaluation, and documentation of new software.

(1) Support for coupling AQMS to ecosystem models: Wet and dry deposition to terrestrial and aquatic systems often represent a significant source of nitrogen and acid deposition. Modeling estimates of deposition are currently the only spatially and temporally complete estimates of these atmospheric inputs to ecosystems. The EPA AQMS, currently CMAQ, estimates these fluxes

but requires considerable post processing to couple to terrestrial and aquatic ecosystem models and for evaluation against special field studies. An AQMS is being developed to better couple to ecosystem models by the expansion of processes considered in its land surface model. To better facilitate this coupling, additional input data from in situ field monitoring of vegetation and soil properties, remotely sensed data, and ecosystem model output will need to be processed for input into the AQMS. This will require the processing of this data in a GIS or custom computer code to format the input data for AQMS and model simulations to test, typically on the order of a month or two surround a field champaign, and evaluate new model algorithms, typically an annual simulation. Inverse modeling techniques may be employed to constrain the model parameterizations where direct observations are sparse or missing. For example, two versions of the AQMS will be specified by EPA and the contractor shall develop the necessary input files including new files derived from observations or remotely sensed data, perform the sensitivity runs, post processes the model output data, and assist EPA personnel with the analysis of the data. Exact simulation periods will be specified by EPA.

(2) Support for future modeling scenarios: Future emission and land use scenarios consider diverse sources of energy production that would likely result in land use as well as emission source changes. Modelled meteorology and air-quality should use land use information consistent with these future scenario projections. This work will require the formating of GIS projected future land use from the EPA's energy system model, currently the MARKet ALlocation model (MARKAL), for use in both air-quality and meteorological AQMS simulations. These model simulations will consist of annual simulations of the AQMS for a base and future year projection. The version of the AQMS will be specified by EPA and the contractor shall develop the necessary input files including new files derived from future projections, perform the sensitivity runs, post processes the model output data, and assists EPA personnel with the analysis of the data. Exact simulation periods will be specified by EPA.

TASK 1.7 Regional Climate and Environmental Interactions

To assist EPA in accomplishing climate change related research goals, the contractor shall perform specified work to support regional climate modeling and its extension to environmental applications. Simulations performed under this task will include both historical and future projections for typical durations of seasonal, annual, decadal, and multi-decadal. Simulations may be strictly regional (continental to state scale) or global with a regional focus. The modeling resolutions could be 0.5-degree of latitude and longitude to as small as 1 km, although the order of 10 km horizontal resolution should be typical. Some software programming and data management of data sets of tens of terabytes in size shall be performed by the contractor. Although specifics will be provided via detailed work requests, some general work areas are defined below.

(1) Data acquisition and downloading, such as global climate model output, reanalysis products, observational data from various sources (satellite, point observations, field study data, long-term climatological archives)

(2) Dynamical downscaling using a regional climate model (such as WRF)

(3) Air quality model sensitivity and testing (such as with CMAQ)

(4) Hydrology model sensitivity and testing (such as with the Variable Infiltration Capacity (VIC) model

(5) Coupled model sensitivity and testing (including regional climate, hydrology, and/or atmospheric chemistry) such as with WRF-CMAQ, WRF-VIC, WRF-VIC-CMAQ

(6) Global-to-local climate model sensitivity testing (such as with MPAS)

(7) Preparing emissions data sets (such as with SMOKE)

(8) Exercising downstream models for applications (such as BenMAP)

(9) Performing scientific analyses (using, for example, NCL, IDV, R, VERDI)

(10) Programming tasks.(using, for example, Fortran, C, C++, R, Python, and shell scripting)

(11) Remapping data using GIS techniques

(12) Statistical downscaling and developing hybrid dynamical-statistical downscaling techniques

Additional contractor activities that are anticipated for the duration of the contract period include:

(1) Developing applications for crowd-sourcing local environmental data

(2) Developing applications for education and outreach on climate information

A. Deliverables:

Because of the research nature of the work to be performed, specific deliverables and due dates cannot be specified far in advance in this scope of work. Specific deliverables will be specified in detailed work requests submitted to the contractor by the TOCOR. In general, deliverables will consist of completed model runs, associated documentation, and related products, such as QC products, analyses and graphic outputs. Other deliverables associated with specialized model applications as noted above in the statement of work will be listed in written work requests by the TOCOR. The contractor shall prepare required data sets, perform standard quality control (QC) checks, execute the air quality simulation models, perform the requested analysis of model results for all applications required during the period of performance, and manage the associated computer files. The contractor shall begin work only after the issuance of a work request by the TOCOR, submission of a response and cost estimate by the Contractor, and written approval of the response and cost estimate by the TOCOR. Regardless of the source of the work, all work requests for air quality modeling support will be issued by the TOCOR. When several work requests are pending, the TOCOR will designate the priorities of the applications. The contractor shall use the Atmospheric Modeling Division's (AMAD's) configuration management libraries to maintain controlled and documented software and dataset libraries for all applications. In addition, the contractor shall be vigilant in managing their use of the disk and tape storage of all model applications, and shall follow EPA-specified protocols in managing data files.

Unless otherwise specified, any deliverables that are produced for the work described above shall use the following software and conventions or the hardware and software specified in Appendix A:

```
Word Processor:   Microsoft Word 2013 or higher
PC Data Base:           Lotus Notes 5.0 or higher,
Email:                  Microsoft Outlook
Operating System: Windows 7
Data Base:        Oracle 7.1 or higher, ASCII
```

Acceptance Criteria

Deliverables shall be submitted to the TOCOR for review. The TOCOR will use the quality and timeliness performance criteria described in Appendix C to judge the deliverables. Evaluation of the quality of the deliverables will include consideration of: completeness of the documentation - especially the QA metadata files, correctness of the input and output data, clearness and quality of the graphics, adequacy of model version and analytical procedures used. The TOCOR has the authority to accept or reject the deliverables or request modifications by technical direction. Upon completion of the requested modifications and within 30 days the TOCOR will review the deliverables and provide notification of acceptance. Upon receipt of approval the contractor shall provide the number of copies of the final version as specified in the work request to the TOCOR.

All deliverables must meet other requirements set forth in the contract, task order and work requests.

Deliverables shall be submitted in accordance with the contractor's approved estimate of completion dates provided to the TOCOR with the work request estimate.

Task 2 Documentation and Deliverable Management

Documentation includes written material and computer output that specifies the results of model runs, summaries, analyses, quality control documentation, periodic reports such as monthly reports, and non-recurring report required by work requests.

Deliverable Management will require the creation and maintenance of a repository that will be used to catalog and document the location of the products developed under this task order. In addition, the contractor shall continuously maintain an electronic register of meteorology and air quality model outputs including their location in the EPA computer system. The register shall be provided to EPA monthly on the same schedule as monthly reports. Deliverables may be catalogued and archived in conjunction with the required quality control on-line directory used for work orders as defined in the QAPP.

All written documentation shall be submitted as scheduled in Word format (for written reports, documentation and analyses) or as either text format or netcdf ioapi format files (for computer generated output files) unless otherwise specified by work request.

A. Deliverables:

1. Non recurring report(s) concerning database administration systems support activities and procedures, application usage statistics. End user documentation, or special purpose scripts, applications or reports shall be requested by the TOCOR and date of delivery will be specified at time of request.

2. Update/Maintain existing Standard Operating Procedures (SOPs) and create new SOPs as required to supplement the task order QAPP, as determined by contractor or as directed in writing by the TOCOR. Delivery dates will be specified, including a procedure to escalate the level of notifications during any problem situation and the procedure to escalate the technical staff expertise as required, to correct the problem or solve the issue. SOPs should be supported by references when appropriate.

3. Each SOP, where appropriate, shall detail how the contractor shall assure that proper documentation, tracking, logging, inventory, training and management procedures shall be established monitored, measured, and adjusted to assure EPA the highest quality products and services shall be provided to EPA.

4. Draft technical reports due dates specified in a work order form. Final version technical report is due 10 working days after draft version technical review meeting / conversation / e-mail from the TOCOR unless the TOCOR otherwise specifies in writing.

5. Any updates to the approved Quality Assurance Project Plan (QAPP) (to be initially completed under the initial work request during the base year).

6. QA documentation to be submitted to an on-line depository location in accordance with the QAPP as approved by the TOCOR.

7. Work request documents, logging and tracking systems (manual and on-line documents/systems).

8. Monthly submission of updated registry of meteorological and air quality modeling output files, including their name, size, location, and work requests with which the files are associated.

9. Monthly report and summary of labor hours, as required by the contract and task order.

10. Specialized analysis packages as specified by work order or technical directive under a work request.

#	DELIVERABLE	TASKING	Distribution	Acceptance Criteria	DATE DUE
1	Monthly Report	Task Order requirement	1 TOCOR 1 AATOCOR 1 CO	Completeness, clarity, organization, consistency, timeliness & technical accuracy	Monthly 15th Calendar day

2	Monthly Report of Labor Hours	Task Order requirement	1 TOCOR 1 AATOCOR 1 CO	Completeness, clarity, technical accuracy, timeliness, organization & presentation	Monthly
3	Monthly updated register of modeling output files	Task Order requirement	1 TOCOR 1 AATOCOR 1 CO	Completeness, clarity, technical accuracy, timeliness,	Monthly
4	QC package	For each Work Request	E-mail notification to TOCOR	Completeness, clarity, technical accuracy, timeliness, organization & presentation	Posted within 30 working days after completion of the final principal deliverable.
5	Specialized analysis packages	Work request or Written Technical Directive	1 TOCOR	Completeness, clarity, technical accuracy, timeliness, organization & presentation	As stated in the work request or Technical Directive
6	Work Plan hour and cost estimate for work requests	Written Technical Directive	1 TOCOR	As necessary in response to work order. Completeness, clarity, technical accuracy and timeliness	within 5 working days
7	QAPP updates	Task Order and work request requirement	1 TORCOR	Completeness, clarity, accuracy, consistency with EPA QA/QC requirements	As required in work request(s)

B. Acceptance Criteria:

1. Monthly Report: The timeliness of monthly reports will be judged on the basis of the performance criteria set forth in Appendix C, Paragraphs B and C. Beyond the information required in the contract and task order, the contractor shall include: descriptions of: major activities completed, major activities in progress, problems, delays, actions required by EPA, future activities, and list of server hardware and software configurations. The report shall separate Windows related information from Unix related information. The monthly report shall include, in addition to normal status and activities, all activities of the Program Manager, and *other key*

contractor managers in support of this task order. The cost portion of the Monthly Report shall include a detailed breakdown of the number and type of labor employed at a **work request** level.

2. All SOPs shall demonstrate quality assurance and control aspects of each task in accordance with the applicable approved QAPP.

3. All SOPs shall demonstrate adherence to policies, procedures and directives issued by Agency IRM authorities

4. Completeness, clarity, organization, consistency, technical accuracy, timeliness, and grammatical correctness of all written materials and reports.

Sub-Task 2.1 Training and Travel

1. The contractor may be asked to send one or more persons to courses, workshops, and/or meetings that either are unique to EPA's computer system or involve specialized modeling applications described in the scope. All travel must be approved in advance in accordance with the task order.

2. Occasional technical support for preparation of technical products for conferences or papers, or travel to conferences may be required. For the purposes of planning, the contractor shall assume that, during each option year, one person each shall travel to two conferences of four days duration, one in Los Angeles and one in Washington, DC. Travel must be approved in advance in accordance with the provisions of the task order.

A. Deliverables:

1. Travel reports shall be prepared that include the purpose and location of the travel, attendees, meeting agenda, significant findings, and any plans or events resulting from the meeting. Copies of travel reports shall be attached to the monthly task request level report.

B. Acceptance Criteria:

Travel reports will be judged in accordance with the performance criteria described in Appendix C, paragraphs B and C, with respect to completeness, clarity, organization, technical accuracy, timeliness, and grammatical correctness.

Task 3: Financial Reporting/Cost Tracking

Financial reporting and cost tracking shall include a mechanism for providing costs and estimates at the project and/or **work request** level. This will require establishing separate project codes as specified in the individual work request or technical direction document. All costs associated with specific project codes shall be reported in the monthly report, and as specified in the individual work order.

A. Deliverables:

1. Monthly time and cost reports organized to show labor hours and costs for the task order and by work request for the month and cumulatively for the option year.

B. Acceptance Criteria:

Monthly financial reporting shall be judged in accordance with the performance criteria described in Appendix C, paragraph C, with respect to completeness, clarity, organization, consistency, computational accuracy, timeliness, technical accuracy, and grammatical correctness.

Please indicate which Application Life Cycle stages will be covered based on the systems/tools that will be supported under this task order:

___Definition/Initiation (New Project)
___Development/Acquisition
___Implementation (Deployment)
_X_Operation/Maintenance
___Termination (Disposal)

Appendix A

Required Software Capabilities

Contractor personnel performing the above air quality-related work shall have knowledge and operating experience with the following software models, tools, and software development languages:

AERMOD - American Meteorological Society/Environmental Protection Agency Regulatory Model
AMET - Atmospheric Model Evaluation Tool
ArcINFO - GIS software system
ARCSDE - Server software accompanying ArcINFO
AQMS - Air Quality Modeling System
AVS - Advanced Visualization System
BEIS3.x - Biogenic Emission Inventory System
BENMAP - Benefits Mapping and Analysis Program
C/C++ - Programming language
CMAQ - Community Multiscale Air Quality Model
DDM-3D - Direct Decoupled Method - 3 dimensional
EMF - Emission Modeling Framework
EMS-HAP - Emission Modeling System for Hazardous Air Pollutants
Eta - Meteorological model (not an acronym)
FEST-C - Fertilizer Emission Scenario Tool for CMAQ
Fortran - Programming language
GMISS - Gridded Model Information Support System
IDV - Integrated Data Viewer tool
JAVA - Programming language
ACCESS - Microsoft database program
MCIP - Meteorology-Chemistry Interface Processor (CMAQ tool)
MEGAN - Model of Emissions of Gases and Aerosols from Nature
MOVES - New EPA GIS-based model for Mobile and Offroad Vehicle Emissions
MM5 - Mesoscale Meteorology Model Version 5
MPAS - Model for Prediction Across Scales
NCAR - National Center for Atmospheric Research
NCAR Graphics - Graphics analysis package support by NCAR
netCDF - net Common Data Format convention
NCL - NCAR Command Language
OLAM - Ocean-Land-Atmosphere Model
Oracle - Database program
Python - A scripting language

QAPP - Quality Assurance Project Plan
R - R statistical analysis software
RAGG - (R statistical aggregation routine)
SA - Spatial Allocator
SAS - Statistical Analysis System
SOP - Standard Operating Procedure
SMOKE - Sparse Matrix Operator Kernel Emission model\
SPARROW - SPAtially Referenced Regressions On Watershed attributes model
Unix (Linux) - Computer operating system language
VERDI - Visualization Environment for Rich Data Interpretation tool
VIC - Variable Infiltration Capacity model
VIS5D - Visualization 5 dimension tool
WRF-ARW - Weather and Research Forecasting - Advanced Research Weather model
WRF-NMM - Weather and Research Forecasting - Nonhydrostatic Mesoscale Model
WRF-Chem - Weather and Research Forecasting - Chemistry model
WRF-Var - Weather and Research Forecasting - Variational data assimilation

Major Functional Applications of Software

The major applications will focus on the use of several air quality, meteorological, and multi-media simulation models including the pre- and post-processing systems associated with the following: CMAQ, WRF-ARW, WRF-NMM, WRF-Chem, OLAM, and MPAS. Work will also include assistance in development and testing a new AQSM to succeed CMAQ..

Appendix B

GOVERNMENT FURNISHED RESOURCES

Facilities, Supplies and Services.

a. Government provisions to contractor space in Research Triangle Park, NC area.

Contractor-provided space located in the Research Triangle Park, NC area will be necessary, and will be allowed remote access to a limited amount of government provided advanced EPA computer equipment. EPA is currently able to provide high-bandwidth communications line to 79 Alexander Drive, Bldg. 4201. Because of hardware limitations, EPA will be unable to provide any ADP equipment or support for equipment outside the Research Triangle Park area.

b. EPA Shared Equipment

Additionally, the government may designate specific equipment as "shared" by EPA and the contractor support staff. This shared equipment typically includes such items as servers, specialized workstations, network printers, scanner, and telecommunications devices. The TOCOR will determine and/or approve access to equipment that will be available for use on a non-interference basis by on-site contractor staff.

Appendix C

PERFORMANCE BASED ACCEPTANCE CRITERIA

The following metrics will be used in evaluating the Contractor's performance for the work described in the paragraphs above. These metrics are designed to be applicable in the uncertainty inherent in supporting research and development science modeling.

A. Quality

1. Adherence to the approved Task Order QAPP shall be used as an indicator of the contractors commitment to quality work. The QAPP includes the provisions of EPA QA guidance publications QA G-5 (Guidance tor Quality Assurance Project Plans) and QA G-5M (Guidance for Quality Assurance Project Plans for Modeling). The QAPP defines Standard Operating Procedures (SOPs) applied to emission, meteorology and air quality modeling. Additional specific items to be included may be provided by EPA. A QA Coordinator and minimum SOPs shall be specified by the Contractor in coordination with EPA for the execution of the provisions of the QAPP. (Deduction for failure to adhere to the terms of the approved QAPP - 10% of overall amount of current invoice).
2. Quality of technical products prepared pursuant to work requests will consider the following weighted factors (summing to 100 percent) in determining a quality rating: (a) completeness of the documentation - especially the QA metadata files (20 percent), correctness of the input and output data (20 percent), clearness and quality of the graphics (20 percent), and adequacy of model version and analytical procedures used (40 percent). The QAPP provisions shall be followed and documented for each work request by the Contractors QA coordinator. A QA report (contents defined in the QAPP) reflecting the requirements of the QAPP and SOPs shall be submitted for each work request within 15 work days after submission of the final deliverable. (Deduction for quality rating of less than 70 percent - 2 % of overall amount of current invoice).
3. Quality in research modeling support may sometimes reflect events or items that are not readily foreseeable. *Diligence by the Contractor in detecting problems outside of prescribed QA procedures is important. Consequently, Contractor-initiated and documented solutions to significant QA problems outside of the required QA procedures will be rewarded* by reducing any percentage penalties on an invoice by up to 2% per documented event for the overall amount of the current relevant invoice period. EPA retains the right to determine what constitutes a significant QA problem.

B. Timeliness

1. The Project QAPP shall be submitted in accordance with a date set in the initial work request (Deduction for late QAPP submission - 5% of invoice).
2. Work request QA reports shall be submitted within 15 work days after completion of submission of the final work request product (Deduction for late submission - 2% of invoice for each late work request QA report).
3. Products for each work request shall be submitted according to the schedule in the work request (allowing for due date modifications agreed to and/or initiated by EPA). (Deduction for late deliverable without prior agreement on changed due dates - 3

% of the overall amount of the current invoice for each late work request final submission).

C. Project Cost Management

1. Each work request shall be completed within estimates prepared by Contractor and accepted by EPA. Estimates are subject to revision for cause if agreed to in advance by EPA (Deduction for each unapproved work request cost overrun - 2 % of the overall amount of the current invoice).

Appendix D

REQUIRED PERSONNEL QUALIFICATIONS (Skills and Experience)

The following mix of air quality-related modeling skills and experience are the minimum required of the contractor's staff, in addition to general administrative and support personnel, in order to complete the work described in the preceding paragraphs. These skills and experiences are specifically required refinements of the general science skills described in Section R of the Request for Quotes. Because the air quality modeling support work is a continuing effort with program deadlines, it is not feasible to allow for re-training or learning of personnel with general scientific skills, but who do not already have the listed specific skills and experiences. The skills are described by level (1 through 4, with 4 being the highest, or expert level, 3 being the experienced or journeyman level, 2 being a newly trained person, and 1 being a trainee or assistant). In addition, the air quality modeling-related suite of software and models with which the Contractor must have experience are listed below the skill descriptions.

A. Minimum Skills and experience levels

1. Air quality modeler (level 4) - Expert experienced air quality modeler with at least 10 years of post-training experience (not including graduate or undergraduate training) in running and interpreting the results of Eulerian regional air quality models, which must include CMAQ and CAMx in test and production modes.
2. Air quality modeler (level 3) - Experienced air quality modeler with at least 3 years of post-training experience in running and interpreting the results of at least CMAQ in test and production modes
3. Meteorological modeler (level 3) - Experienced air quality modeler with at least 3 years of post-training experience in using and interpreting results from all versions of the WRF gridded meteorology models and the MCIP tool needed to transfer gridded meteorology data to the air quality and emission models.
4. Air emission modeler (level 4) - Expert emission modeler with at least 10 years of post training experience in modeling and interpreting gridded emissions for input to CMAQ and CAMx, and using the SMOKE model with EPA National Emission Inventories.
5. Air emission modeler (level 3) - Emission modeler with at least 3 years of post training experience in modeling and interpreting gridded emission data using the SMOKE model.
6. Geographical Information System expert (level 3) - A experienced GIS person with at least 3 years of post-training experience in using GIS in creating and modifying data sets for use with regional emission and air-quality modeling.

B. Required software experience. The contractor shall have personnel experienced in using the air quality-related models and software languages and tools described in Appendix A.